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EDITORIAL.

GLANDERS—ITS CONTAGION—ITS CURABILITY—MALLEINE.

IS GLANDERS COMMUNICABLE THROUGH THE DIGESTIVE APPARATUS?—IS GLANDERS CURABLE?

These are two important questions, upon which much has already been written. A new phase has been opened lately. Prof. Nocard, the celebrated professor of the Alfort School, has worked out the two problems quietly, and a few days ago gave positive evidences of his previous declarations before the members of the commission hippique of the War Department and a large number of veterinarians (civil and military), with whom I had the pleasure of following Prof. Nocard in his demonstrations, which concluded in answering the two questions in the affirmative.

To carry on the experiments twelve horses were placed at his service at Alfort by the Secretary of War. These horses, in fair condition, *were left out in the field, secured to a post with ropes, permitting of reasonable liberty; they were kept exposed to all kinds of weather; were well fed, but, in the free open air;* they were first submitted to the malleine test, to ascertain their thorough freedom from any glanderous infection.

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On November 30th all those horses drank water out of a pail containing a certain well-measured quantity of culture of glanders. A few days afterwards, varying from four to eight days,

a great oscillation in the temperatures of these animals was observed, oscillations which indicated only their febrile condition. After the eighth day, in a few a gland was noticed which assumed the characters found in the glanderous animal.

On December 15th, all the animals received an injection of malleine. This was followed in all by a thermic and local reaction, with swelling, general prostration, loss of appetite, etc. With some animals, these manifestations lasted a few days, but subsequently all returned to a normal condition in a variable length of time.

A month later, in January, another injection of malleine was followed with the same reactions; however, in a few this was *marked with less severity.* On January 21st, the third month of the experiment, three horses presented such external clinical symptoms that further experiment was useless, and they were destroyed. The disease given by contagion through the digestive canal was doubly made evident by the appearance of the symptoms and by the facts recorded by the use of malleine.

Later on two more animals had the same ending.

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The injections of malleine were kept up every month until July, and from the third month a change was observed in the thermic reaction. With some animals it only diminished, with others there was none. The records of the temperature shown by the maps exhibited by Prof. Nocard were of great interest, in following the changes which were evidently going on in the subjects of the experiments. One of the animals, after remaining without reaction for a while, suddenly exhibited peculiar symptoms and a marked febrile condition, which justified its being destroyed. The lesions that were found at the post-mortem were sufficient to explain his condition. He had acute pleurisy. The upper part of the lungs displayed also some slight peculiar glanderous lesions.

In March (fourth injection of malleine) there were of the six horses remaining some that reacted very slightly, the balance did not.

In May the reaction failed to appear in any of them, and from that date to July, when four of these horses were killed, when three, four and five months had elapsed, if the reaction is absent, if no elevation of temperature, no swelling at the point of inoculation are observed, after the evidence of the presence of the disease, inoculated through the digestive canal, has been so conclusively demonstrated by the malleine test, it is, said Prof. Nocard, "*because the animals have recovered—they are cured.*"

Four of the six animals were destroyed, and post-mortems made before the greatly interested crowd of scientists who had listened to the history of the whole experiment as related by Prof. Nocard.

In all the lungs were found: miliary tubercles in their various forms—caseous, calcareous; some translucid tubercles; some small spots of lobular broncho-pneumonia; but no other lesions of glanders, either in the trachea or anywhere else. In fact, the lesions were very much similar to those that one meets with in the lungs of those peculiar forms of latent diseases, in pulmonary glanders. But these macroscopic lesions were those of contagious glanders only in appearance, to the naked eye; they were not otherwise; they were dead lesions, so to speak; the bacillus was no longer present, and the evidence of it was given by a supplementary experiment.

Most of these lesions, miliary, caseous, calcareous, translucid tubercles, with pieces of lungs showing lesions of broncho-pneumonia (the nature of which was not certain), were collected, put into a china mortar, and crushed thoroughly with a small quantity of bouillon, to be inoculated by Dr. Roux to female donkeys and guinea-pigs, both typical subjects for such investigations. In all of them the results were negative, with the exception of a local abscess at the point of inoculation; the donkeys did not develop glanders; the guinea-pigs did not have the characteristic orchitis of glanders.

* * *

From this interesting experiment some very important facts impose themselves:

(1) Evidently glanders can be communicated through injection of the digestive canal.

(2) Malleine will, by its ordinary manifestations, indicate the presence of the disease a few days after the injection.

(3) If the thermal reaction diminishes after having been characterized, or is only lower than in ordinary cases, it indicates that a process of recovery is going on.

(4) Complete absence of thermal reaction, after its full development or after a gradual diminution, means death of the bacillus—means recovery.

It is, then, no longer the lesions only which tell if latent glanders exist or not, but malleine, which affirms their living or of their dead conditions, of their characteristic and dangerous or their inert and harmless nature.

* * *

There may not be a great practical value in these results, and from them it must not be concluded that any case of glanders is curable, nor that attempts at treatment will be justified in any form. Well-developed cases, with the characteristic chancre, gland and discharge, must (for the present, at least) be excluded from the class of those in which malleine can have any effect. It is only with those in which external signs are absent, where the disease is latent, in animals which are in good condition, and which can receive the best feeding and have the benefit of long rest in the fresh open air, that an attempt might be undertaken; but in the presence of the long required rest, loss of work, and possible failure, the practical result can be looked for only in very exceptional cases. Prof. Nocard has shown me one animal which demanded no less than twenty months of treatment and observation before he was pronounced cured.

* * *

There remains one point of importance; and that is, is recovery temporary or radical? Has the rest, good feeding, freedom in the pure fresh air only partially destroyed the vitality of the bacillus; and will it not resume it and its activity as soon as the horse is returned to hard work, privations, etc.?

The two horses that remain alive from the whole experiment, which for the last three and four months have reacted no more, which are in good condition and are considered as cured, are to be returned to their duties in the army, and are going to be submitted to the severe work of the great manœuvres, from which it is fully expected they will come out free of the disease. We shall later on report about them. A. L.

PARIS, August 1, 1897.

A REPLY? YES! . . . . . AN EXPLANATION? NO!

In September, 1896, Prof. Law, in public, said: "To this last, lowest depth of sordidness (the sale of diplomas) MORE THAN ONE VETERINARY COLLEGE in America has sunk."

In January and February, 1897, the REVIEW called upon him to explain what was meant by this sweeping accusation, saying to him: "If one, which do you accuse? If more than one, how many? Name them."

Receiving no answer, in July, 1897, SIX MONTHS afterward, the REVIEW renewed its request for an explanation.

Prof. Law could no longer remain silent; he replied through the August issue, and his answer has for one month been before the veterinary profession of America, composed for the most part of alumni of the private schools which we assumed Prof. Law had reference to.

In the communication which he has been pleased to make he alludes to one article of the REVIEW printed in the first volume of its publication, and he interprets it to fit his argument. In that article, speaking of institutions CHARTERED THIRTY YEARS AGO, the author stated that "we meet with many diplomas which have been unjustly and illegally granted, and may be considered worthless." He also refers to other pages relating to the "Philadelphia Veterinary Diploma Shop" and "Correspondence," and from these Prof. Law tries to make the profession of to-day believe that in his address he had no circumstances in view other than the writings of the senior editor of the REVIEW twenty years ago!

But twenty years ago the editor of the REVIEW did not say that the colleges spoken of, and which granted diplomas so unjustly and illegally, SOLD their degrees, but that these schools were schools only in name, without buildings, without college proper, and it was not certain that regular lectures were ever given. And, again, in the references to the "Philadelphia Veterinary Diploma Shop," Prof. Law ought to know that every veterinarian in the United States understands that the "Veterinary College of Philadelphia" was never one in the sense that is granted to the private veterinary institutions that have existed for more than thirty years in this country.

But, let it be so! Let us admit (what a disgrace!), to assist Prof. Law in his defence, that the work of McClure, which the REVIEW exposed in 1877, was the work of a private veterinary college. This is only one of the accused institutions. Prof. Law said there were *more than one;* which are the others?

No; the director of the New York State Veterinary College has gone back to ancient history. The citations which he thought might help him out of the position into which his words have forced him, do not explain to unbiased readers the unfortunate utterances which he attempts to harmonize; they know that he did not have in his mind the schools he alludes to in his reply, no more than the REVIEW had when it felt it its duty to ask an explanation.

What the REVIEW did in 1877 was done for the good of the profession. What it did in 1897 was done for the reputation of the American veterinarian. It feels that its duty only has been accomplished; to have passed the affront by in silence would have been a remissness not in keeping with its history nor its ambition. But our efforts have been unsuccessful in inducing Prof. Law to vouchsafe an explanation. True, he has broken his silence, but his innuendo is undisturbed.

We now leave the question in the hands of the alumni of the private veterinary schools of America, in the hands of the National Association, in those of the Association of Veterinary Faculties of North America. A. L.

THE NASHVILLE MEETING AND THE REVIEW.

Before this September number of the REVIEW can reach many of the members of the United States Veterinary Medical Association they will be *en route* for Nashville to attend its thirty-fourth annual meeting, to participate in the exceptionally full and interesting programme which has been secured for the educational and social entertainment of those who are so fortunate as to be able to be present. The REVIEW has detailed to its readers the preparations for this convention as they have developed, and has never ceased to urge them to strain every sinew to profit by the opportunity afforded, and we go to press on the eve of assembling with the firm belief that none will be absent where attendance is possible; and to those who may fail we are going to do our full duty—for the October REVIEW will be a perfect reflection of the stirring veterinary events which shall occur at Nashville, and, if they are sorrowful that circumstances of whatever nature have bound them at home, they shall at least be glad that they have the REVIEW to fall back on to partially compensate. Then we say, Godspeed to the National Convention of 1897!—the most promising in every respect that has ever been called to order.

QUACK APPOINTMENTS ALREADY YIELDING FRUIT.

Apropos of the appointment by the Governor of Illinois of a non-graduate to the office of State Veterinarian, and the warning letter as to its effects upon our foreign trade in live stock by President Walker, of the Chicago Veterinary Society, we find the following comment in the August *Veterinary Journal* (England): "Evidently the warnings of Mr. Walker are fully justified, for Mr. Bowhill, F.R.C.V.S., formerly professor of bacteriology at the New Veterinary College, Edinburgh, who has recently returned to this country from America, informs us that in the vessel in which he crossed the Atlantic there were three horses that died of 'pinkeye' on the passage. In view of the above facts, our veterinary inspectors on this side of the water

will be more than ever on the alert for contagious disease among cattle and horses from America. With the office of State Veterinarian in Illinois held by an unprofessional man, who is being rapidly 'boycotted' by the members of the veterinary profession in that State, and with American horses dying of 'pinkeye' on the passage to this country, a lengthened quarantine on American horses imported into this country is one of the certainties of the near future."

TWO EXCELLENT APPOINTMENTS.—The appointments just announced of Prof. Leonard Pearson, B.S., V.M.D., Professor of the Theory and Practice of Veterinary Medicine at the University of Pennsylvania, to the Deanship of the Veterinary Department of that institution, and Prof. E. A. A. Grange, late State Veterinarian of Michigan, and professor in the State Agricultural College, to be Dean of the Veterinary Department of the Detroit Medical College, are very satisfying to the profession of the country and are very hopeful signs of the times. They are both men who have the cause of higher education very close to their hearts, and they will carry with them into their new offices the vital qualities of success—scholarly training, enthusiasm, energy and a desire to elevate the profession of veterinary medicine by supplying men of the right type.

ARE FISTULÆ OF THE WITHERS INFECTIOUS?—Dr. H. S. Drake, of Leesburg, Virginia, reported to the last meeting of the Virginia State Veterinary Medical Association, through the Committee on Statistics, a number of instances coming under his observation of fistulæ of the poll and withers in horses and colts which suggested the element of contagion or infection. See "Society Meetings," this issue.

THE NEW YORK STATE VETERINARY MEDICAL SOCIETY will meet in Syracuse, Sept. 14th and 15th, and the programme, as far as completed, will be found upon the news pages. It is the duty of all members to attend; of all others to join.

ORIGINAL ARTICLES.

[WRITTEN SPECIALLY FOR THE AMERICAN VETERINARY REVIEW.]

THE PARASITIC ICTERO-HAEMATURIA OF SHEEP.

BY W. L. WILLIAMS, V. S., PROF. OF SURGERY AND OBSTETRICS, NEW YORK STATE VETERINARY COLLEGE, ITHACA, N. Y.

Under date of July 1st, 1895, was published as a part of Bulletin No. 8, of the Montana Agricultural Experiment Station, some preliminary investigations regarding an outbreak of parasitic ictero-hæmaturia, or red water and jaundice of sheep, a disease heretofore described, so far as we know, only by Profs. Babes, of Roumania, and Bonome, of Italy. Since the publication of Bulletin No. 8, no outbreaks of the disease have been reported outside the area originally infected, and no reliable information has been gleaned to indicate the existence of this fatal malady anywhere in the United States, except in the Silver Bow and Deer Lodge Valleys, near Butte, Mont. The subject is one of great scientific interest, and while of economic importance in a very limited area only, the possibility of other sheep ranges becoming similarly infested lends to the subject sufficient importance to warrant further study of its nature, and led me to keep as close watch as possible regarding its further continuance and spread.

The preliminary account of the disease, published in Bulletin No. 8, appeared in full in the *Veterinary Magazine* (Philadelphia), Vol. II., p. 497.

In the meantime the disease had abated, several owners sold the remnants of their herds, and nothing more was known of the malady until on May 28th, this year, a telegram was received from Mr. M., of Silver Bow, announcing its reappearance.

Proceeding to Silver Bow, on May 29th, it was learned that the disease, so far as known, was confined to the herd of Mr. M. His herd had wintered in the lower Silver Bow Valley, and had remained free from any epizootic disease until their removal, May 9th, to the foothills some three miles from their winter

quarters, where, after a stay of about ten days, the disease appeared in a pronounced form, and sheep began dying in considerable numbers.

The herd was a mixed one of 1800 sheep, largely ewes, and 240 Angora goats. About the 18th or 19th of May, the sheep began dying at the rate of two to four daily, and continued through June. During the investigations of a year ago it was thought that one or two Angora goats had died of the disease, but in the present outbreak none of the 240 goats, which commingled freely with the sheep, showed any signs of the malady.

On May 30th post-mortem examinations were made on three affected animals, the results of which follow.

Case No. 1.—An aged Merino ewe, about 50 lbs. weight, weak, and emaciated, was killed by bleeding. The subcutaneous connective tissue was of a pale, dirty-yellow color, the abdomen contained three or four ounces of dark colored serum, liver slightly enlarged, yellow, firm; gall bladder distended with dark-green bile, the connective tissues surrounding the gall bladder infiltrated with pale, dirty-brownish serum. Alimentary canal was moderately filled with food and offered nothing of note except a well-marked dirty-brown effusion along the smaller curvatures of omasum and abomasum. Kidneys enlarged, dark, soft, and on section much blackish urine exuded; bladder contained eight ounces dark-brown, semi-transparent urine. Uterus contained placental débris from recent parturition. Spleen small, globular, contracted, black on section. Lungs normal, heart pale, flabby and empty. Facial sinuses contained six œstrus larvæ.

Case No. 2.—Grade Leicester ewe, 75 lbs., down, unable to rise. Conjunctivæ dirty-brown in color. Killed by bleeding. The blood flowed freely (black, thin and smeared on a glass slide appeared dirty-brown in color, quite devoid of the usual red). Subcutaneous connective tissue dark, dirty-yellow. Omental and mesenteric fat dirty, dark-yellowish brown, spleen small, firm, dark; the liver large, dark in color, the lobules yellow, the inter-lobular spaces filled with blood which gave a

general dark color; the gall bladder contained about ten ounces dirty yellow bile, the bile duct contained five tænia fimbriata, each about six inches on length. Kidney slightly enlarged, dark-brown, moist in section, bladder empty. Pericardium contained half an ounce orange-colored serum, and showed numerous ecchymoses of the size of a pinhead; endocardium of left ventricle profusely ecchymosed, the discolorations being as much as one inch long by one-eighth of an inch wide, the heart tissues were flaccid and dirty pale-yellowish. The uterus contained placental débris of apparently three to four days standing. The facial sinuses contained four œstrus larvæ.

Case No. 3.—An aged Merino ewe, about 70 lbs. weight, with young lamb at side, in fair flesh, able to walk. Conjunctivæ and skin a dirty olive color. Was killed by bleeding and autopsy made at once. Blood moderate in amount, and of a dirty reddish-brown color. Subcutaneous connective tissues throughout the body, and to a lesser degree the muscular tissues, were of a dirty leaden color, giving appearance of animal having been dead for a number of hours, with consequent post-mortem changes. There was, however, no abnormal odor, emphysema nor other evidences of decomposition. The alimentary tract was well filled with food, the liver large, dark yellowish brown, very friable; the gall bladder moderately filled with yellow bile. The kidneys much enlarged, blue-black in color, œdematous, soft; on section very moist; bladder almost empty, urine dirty brown in color. Heart was pale and flaccid. The flaccid sinuses contained six œstrus larvæ.

Case No. 4.—A large yearling ewe, not pregnant, weak, moved with staggering gait, ears drooping, very œdematous, being two or three times their normal thickness. Conjunctivæ and skin had a bright lemon color. Patient killed by bleeding, blood scanty and feebly coagulable. Body well nourished and fat, all adipose and connective tissues throughout the body were of an intense lemon-yellow color, even the chordæ tendinæ of the heart partaking of the same color in a marked degree. Liver enlarged, bright yellow in color, lobules well marked, in-

terlobular being congested and dark red. The gall bladder contained 10 ounces of dark black-green bile, so dark as to appear perfectly black *en masse*. Kidneys slightly soft, moist; bladder contained one ounce of coffee-colored urine. Spleen small, contracted, hemispherical. Intestinal tract well filled, normal.

The above cases given in detail are essentially parallel to the results summarized in Bulletin No. 8 of the Montana Station with the notable exception of Case No. 3, in which the color of the tissues was very different, yet agreed in one important particular—the evidently grave disorganization of the blood cells. Case No. 4 exhibited, in a marked degree, a symptom, the œdema of the ears, which was only occasionally noted in the outbreak described in Bulletin No. 8, while in the above outbreak the Chinese shepherd usually noted the œdema of the ears as the first symptom of the disease, and, believing that slitting the ears in some way modified the disease, habitually practiced it and noted the escape from the wound of much of this anasarcous fluid. The face, too, was not infrequently swollen. An interesting observation was the fact that almost all affected animals were ewes which had but recently, two to six days prior, given birth to lambs, the ordeal of parturition apparently inducing a condition of the system which more readily permitted the ravages of the micro-parasite.

TETANUS.

By Leonard Pearson, V.M.D., Philadelphia, Pa.

Read before the meeting of the Pennsylvania State Medical Veterinary Association, Philadelphia, March 2, 1897.

Tetanus of horses is a disease that has been known since the earliest times, and was described by Apsyrtus during the fourth century. The views in regard to this disease that have prevailed at various times have differed widely, and it has variously been ascribed to an "inflammation of the blood," an injury to the brain or spinal cord, a peculiar electrical condition of the atmosphere, foods of various kinds, etc. Subsequently tetanus was divided by the writers of text-books into several varieties, particularly

traumatic, rheumatic, idiopathic; and each of these forms of disease was ascribed to different causes. It was not, however, until the researches of Nicolaier that the real cause of tetanus was discovered. Nicolaier's first announcements were published in 1884, and they were amply supported and confirmed by the researches of Kitasato, published in 1889. Kitasato was successful in isolating and in growing, in pure cultures, the tetanus bacillus, and he proved by the inoculation of animals that the disease could actually be produced by the bacillus that he had isolated and described.

The tetanus bacillus is an organism of rather peculiar shape. It is rather long and slender, and has a round enlargement at one end, which contains a spore. This bacillus has been found in earth, in pus, in manure, and in the secretion from infected wounds. The bacillus is isolated in the laboratory with much difficulty, because it will only grow where there is an absence of oxygen.

The spore of the tetanus bacillus is quite resistant, very much more so than the bacillus itself, and it requires heating at boiling temperature from two to five minutes to destroy it. The isolation of the germ in the laboratory is based upon this characteristic, and is carried out after the method first described and employed by Kitasato. A small quantity of the material to be examined is exposed for an hour at a temperature of 80° C., and in this way all of the bacteria and most of the spores in the substance, with the exception of the spores of tetanus, are destroyed, and the inoculation of culture media with material so treated enables one to obtain a pure culture of the tetanus bacillus without much further difficulty. The tetanus bacillus, and particularly its spores, is not only resistant to heat, but to other conditions that are unfavorable to the growth of germs. For instance, it requires exposure to a 5 per cent. creolin solution for five minutes or to 5 per cent. carbolic acid solution for ten hours to destroy it. A 5 per cent. carbolic acid solution, together with 0.5 per cent. of hydrochloric acid, destroys these organisms in twenty-five minutes. A particularly strong antiseptic for the

spores of the tetanus bacillus is trichloride of iodine. This fact was discovered by Behring, and has been made use of in a number of important experiments. These germs are not only resistant to the digestive fluids, but they may even multiply in the digestive tract. This accounts for their presence in the manure of horses.

The tetanus bacilli are so widely distributed, and find the conditions outside of the living body so favorable to their existence, that opportunity for infection is abundant, and there are few places that are entirely free from this disease, although it is far more prevalent in some localities than in others. The manner in which the bacillus is introduced into the living animal is a matter of considerable moment as regards the danger of such inoculation, since the organism will not grow in the presence of oxygen; all inoculations with the tetanus bacillus are not dangerous, but when the organism is introduced deeply into the tissues away from the air, or when it is introduced with other germs that use up the oxygen in the surrounding parts, tetanus may develop.

The wounds that are especially apt to be followed by the development of tetanus are wounds made by objects that have been in contact with the earth, and are therefore most apt to contain tetanus germs. For instance, pricking of the foot is especially dangerous in this respect, and a calk-wound of the coronet is also accompanied by considerable danger, as it is likely to be made by an object that has been in contact with earth and manure, and to be coated with more or less tetanus bacilli. A deep puncture with a piece of wood, castration, and docking have also been followed in many cases by tetanus. The use of clamps in castration was frequently followed by tetanus in the olden times, when it was not customary to disinfect these instruments. The infectious wound-secretion containing the bacilli and spores of tetanus would in this way be carried from one colt to another, and the death of a large proportion of the animals castrated by certain operators or in certain districts was not uncommon. The not rare cases of tetanus

that occur without external injury are explained by the assumption that infection has taken place through a wound that was so small as to escape notice, or that infection occurred through the mucous membrane of the intestinal canal.

The disease, tetanus, is caused by the tetanus bacillus by means of a toxin, or ptomaine, that is developed by this germ. This substance is produced by the germs at the point of inoculation. It is carried by the circulation to all parts of the body, and its action on the central nervous system is such as to produce the muscular spasms that are characteristic of the disease. The toxin of tetanus is also produced when the germ is grown in culture-media in the laboratory, and it has been found that the injection of a small quantity of toxin that is entirely free from living organisms will produce the symptoms of tetanus. The power of this toxin is extraordinary, and but a very small quantity of it will produce death.

The rapidity also with which the toxin is developed is astonishing. Kitasato has found, for instance, that when mice are inoculated at the root of the tail, and afterward the skin and subcutaneous tissues around the inoculation are removed and cauterized, the treatment is without avail unless it is performed within one hour after the inoculation. In cases of tetanus toxin is found in the muscle-juice, the blood, the urine, and in the milk. As the toxin gradually passes from the point of inoculation, where it is developed, into the general circulation, it is noticed that rigidity of the muscles begins in the inoculated member or part of the body and gradually extends to the more distant portions. It has been shown by Nocard that by the time the symptoms of tetanus appear in the horse the saturation of the tissues with tetanus toxin is quite general, and the amount of toxin contained in the body at that time is enormous.

The bacilli themselves never enter the blood, and, of course, cannot pass into the circulation, and after they have elaborated enough toxin to cause death the post-mortem appearances, as is well known, are about normal, with the exception of the sup-

purating wound at the point of inoculation and more or less congestion of the central nervous system.

It has been shown by experiments conducted by Behring and Kitasato that the trichloride of iodine restricts to a very great extent the vitality and virulence of the tetanus bacillus, and by introducing into susceptible animals small quantities of tetanus cultures that have been treated with this agent, and gradually increasing the strength of such cultures by using smaller quantities of the trichloride of iodine, a certain degree of immunity can in time be developed, so that at last very large quantities of pure culture can be introduced without producing tetanus. An animal treated in this way gradually develops in its blood a chemical substance that neutralizes the effect of the toxin of tetanus, and which is, therefore, known as an antitoxin.

The immunity that the animal possesses depends upon the antitoxin that is present in its blood. If another susceptible animal is inoculated with a fatal dose of tetanus toxin, and is treated immediately thereafter with an adequate amount of antitoxin derived from the serum of the immunized animal, the development of the disease will in this way be prevented, and it is upon this principle that the treatment of tetanus with antitoxin is based. Experiments conducted by Vaillard and Rouget have shown, that if the toxin is removed from the tetanus bacilli, they can then be introduced into an experimental animal without evil effects, because they are quickly taken up by phagocytes and destroyed; but when tetanus bacilli containing antitoxin are introduced they are not taken up by phagocytes, and quickly produce toxin, causing the development of tetanus. The antitoxin, injected immediately after the toxin-containing bacilli are introduced into the body, neutralizes their poison to such an extent that they can be destroyed by the phagocytes; but if the antitoxin is not present in the blood when the animal is inoculated with the germs of tetanus, or if it is not introduced into the circulation shortly thereafter, the tetanus bacilli produce so much toxin that it cannot be neutralized, and the de-

velopment of tetanus cannot be prevented. That is to say, tetanus can be prevented with great certainty by the use of antitoxin; but when the symptoms of the disease have once appeared there is so much toxin in circulation that it cannot be neutralized by any amount of antitoxin that it is possible to introduce, so that the treatment of tetanus with antitoxin is not yet established on a profitable basis.

The prevention of the disease, however, by the use of antitoxin is in many instances practicable and a valuable resource. For example, it is known that tetanus is much more prevalent in some districts than in others, and that exposure is frequently followed by tetanus. It is also known that on some farms and in some stables tetanus is a common disease, and even slight injuries result in death from this cause. Under these conditions it may be serviceable to administer to the animal an immunizing dose of antitoxic serum, after which the contemplated operation may be performed without risk. Or if a valuable animal sustains a puncture of the foot or a punctured wound or a calk-injury, and particularly if the animal is kept in a stable where tetanus has previously appeared, it would be advisable as a general precautionary measure to protect it by the use of antitoxin serum.

My attention was recently called by Dr. Walters, of Wilkesbarre, to a mine in Dauphin County wherein there were almost one hundred mules, and of these twenty-three died of tetanus during a period of about two years. In January five or six died. I obtained some tetanus antitoxin, which was administered to fifty mules that occupied the stables in which the tetanus had previously appeared. Since that time no cases of tetanus have been reported.

Tetanus antitoxin has been used most extensively by Nocard in France, and Schutz in Germany, and they report that the mortality from tetanus has been considerably reduced by the use of this agent in districts where the disease prevails extensively and where antitoxin has been used before operations, and after injuries as a precautionary measure.

The recent researches that have been made in relation to this disease, and the knowledge that we now have in reference to its toxin, explain the indifferent results that have attended the use of medicines. While it is true that certain therapeutic agents will, for a time, prevent the spasms that occur in tetanus, they cannot cure the disease, for they do not neutralize the poison, and as soon as the animal emerges from the effect of the drug the spasms are as bad as ever; but during the entire period the nervous system is irritated by the toxin it is gradually losing its vitality, and the animal is approaching death.

The only forms of treatment that are at all promising in the light of our present knowledge of this disease are: (1) The use of tetanus antitoxin; (2) the excision or sterilization of the local wound; (3) complete quietude and rest, thus giving an animal an opportunity to conserve its strength to the greatest possible degree, and make its conditions most favorable for overcoming the action of the toxin. It may be that other means of neutralizing the toxin will in time be discovered, or that it may become possible to produce the elimination of the toxin from the body, but as yet all efforts in this direction, including the use of purgatives, diuretics, and diaphoretics, have signally failed. Our greatest hope is in the development of the antitoxic treatment.

THE TUBERCULIN TEST FOR TUBERCULOSIS IN MILCH COWS.

By Prof. David S White, Ohio State University (Veterinary Department).

A Paper read before the Ohi › State Veterinary Medical Association.

Heretofore in dealing with such chronic contagious diseases in our domesticated animals as, for instance, glanders in the horse and tuberculosis in cattle, we have been considerably hampered by not being able at all times to recognize them in their latent, hidden forms. All that modern developments have given us in the way of special instruments and mechanical devices to help us determine the presence of disease in internal

organs in the animal body, have only been useful in a small percentage of instances. Especially in our animals is physical diagnosis difficult in chronic hidden diseases. Although in more pronounced cases auscultation (the stethoscope) and percussion (the hammer), the irregularity in blood temperature (thermometry) and more rarely the pulse, may tell us that there is lurking within a lung a nest of contagion, in by far a greater number, no one, if his five senses be ever so acutely developed, can discover its presence. The disease tuberculosis, the diagnosis of which I shall treat briefly of to-day, usually presents itself in a latent form. It is a slow, wasting disease, "a pestilence that walketh in darkness," and as a venerable and esteemed colleague rightly says, "often under an outward guise of health the subject of the disease carries around germs of death to his unsuspecting and more susceptible fellow." The very propagation of tuberculosis seems to depend upon its latency. Acute diseases in our cattle, like anthrax or Texas fever, present a bold front, manifest well marked symptoms, their victims soon succumb, hence well directed veterinary police measures can readily and comparatively easily cope with them and crush them out. To effectually stamp out forever any infectious disease we must seek its source. To destroy the source must be to destroy the disease. In consumption of our cattle the source of the disease (the germ) is always harbored in an infected animal. One may possess a perfectly healthy herd of cattle, he may introduce into this herd an apparently sound cow, which may carry in its lungs a few tubercular nodules, the presence of which no expert can unearth. This infected animal can, however, transmit the germs to those standing next to her in the stable, and from them to their neighbors, etc., if they only be kept living together for a long enough period of time, until perhaps twenty-five, fifty, one hundred per cent., depending upon the sanitary conditions of the stable, the food and care the animals receive, become victims of the disease.

When consumption was thought to be due to bad sanitary arrangements alone, dirt, dust improper food, etc., efforts were

made to circumscribe and combat the plague by butchering those animals presenting well-marked clinical symptoms, *i. e.*, those in which the disease had become acute or from the morbid process undermining of the animal's whole system, making it appear a thin, emaciated, hide-bound, conghing object of ill-health. To this was added a disinfection, a spreading of certain chemicals about the stable. Such methods were never availing of much result; it was usually not long before another cow would "go the same way." Not so much from acute cases is tuberculosis spread, as they soon die, but from the chronic, latent cases. Until within the past few years, with the exception of a few sporadic attempts at preventing the spread of consumption in foreign countries and in our New England States, little has been done towards the eradication of this "White Plague of the North." Until fourteen years ago the cause of the disease was shrouded in mystery.

In 1882 R. Koch announced to a gathering of physicians in Berlin that he had discovered the true and only causes of consumption in man and animals to be a microscopic plant of low order—the *bacillus tuberculosis.* Though often assailed, this assumption has never been disproven. At the present time it is even accepted by a large part of the laity, that to have tuberculosis we must have the *tubercle bacillus.* Without this germ no consumption. Having determined the cause of consumption, Koch turned his attention towards finding a cure, and a few years later announced that by inoculating phthisical patients with a product of the germ which he called tuberculin he could induce a healing, respectively on encapsuling of the tubercular lesion. His efforts have, however, not been crowned with success. At the Veterinary Institute in Dorpat, Russia, in 1890–1891, tuberculin was tried on notoriously tubercular cattle to note its effect upon consumptive animals. A rise in temperature in every case of 2° F. and over above the normal first drew the attention of veterinarians to its value as a diagnostic agent. In non-tubercular cattle there was no rise manifest. Since that time thousands of cattle have been subjected to a tuberculin test and

in nearly every case the value of this product of the *bacillus tuberculosis*, as a diagnostic agent, has been confirmed. The technique of the manufacture of tuberculin may be omitted here; suffice to say that it is the toxic product of the germ of consumption, and if properly prepared contains none of the bacilli themselves. It can, therefore, in no case induce, cause or transmit the disease in any form. Tuberculin is simply a chemical constituent, an inanimate substance, and cannot increase itself in the animal body as a living micro-organism has the power to do.

Prof. Bang, of Copenhagen, Denmark, a close student of animal tuberculosis for many years, has, since 1891, been trying to eradicate the plague from that little kingdom of 2,000,000 souls and 1,960,000 cattle. In his battle with grim phthisis, this agent alone, he says, has placed him in a position to discover tuberculosis in its hidden forms. Since he began his work 53,303 cattle have been subjected to the tuberculin test, of which 20,665 reacted, and were found tuberculous. The effect of tuberculin upon tubercular cattle, as to whether their condition was made worse or not by its use, has often been questioned. To determine this point Dr. Bang made post-mortems on 83 tubercular animals that had been subjected to repeated tuberculin tests. Notwithstanding that among these 83, which were affected in a high degree, in only 4 cases was an acute miliary (embolic) tuberculosis apparent. Even a localized tuberculosis was not made general, in spite of the fact that the cows had been tested several times. We must also bear in mind in this connection that a chronic tuberculosis can at any time become an acute miliary one and lead to a hasty death.

Tuberculin is not an infallible agent. We are at times led by its use to make a false diagnosis. These false diagnoses are of two kinds: either the tuberculin causes a reaction where the animal is not tuberculous, or there is no rise of temperature when the disease is present.

Dr. Eber recently made autopsies upon 503 animals condemned as being tubercular with the tuberculin test. The

diagnosis was confirmed in 489 instances, while in 74 cases the lesions of the disease were not found. In Denmark 515 post mortems showed 50 false diagnoses. My own experience has been that, whenever tuberculin caused a rise in temperature in an animal to exceed 2° F., tuberculosis was present, but at times notoriously tubercular cattle do not react to the test. At the present time, however, tuberculin must be considered as the most valuable diagnostic agent that we possess, and by its use alone are we placed in position to discover and control consumption in cattle.

Tuberculosis in our bovine herds is the most generally prevalent and widely distributed of plagues. No country where cattle raising and dairying are the source of wealth is free from its ravages. Especially in lands and districts where cattle cohabit together through a long period of time does it seem to flourish. In localities where cows are kept for dairy purposes, to supply food for human food, the germ of consumption finds a fertile soil upon which to grow and perpetuate itself. While the young beef cattle of our plains and pasture lands are comparatively immune, in the more densely populated milk-producing sections of a country a large percentage of the older milch cows are affected. To give exact statistics as to tuberculosis' prevalency among cattle in our own land would be at this time impossible.

From Dr. Ostertag's observations at the Berlin slaughter-houses it would seem that few old milch cows were free from the disease. He found 75 per cent. of those old dairy veterans harboring tuberculosis. In Denmark the production of milk, butter, and beef is the chief source of wealth and prosperity, and in this country nearly 40 per cent. of the cattle have been found to be tuberculous. The larger the herd the more extended has been the disease. The longer the disease exists in a herd the wider will be its distribution. Of one herd of 208 animals, 80 per cent. of the milch cows reacted to a tuberculin test. One dairy herd in Ohio tested by myself showed 32 per cent. to be affected. The germ of consumption does not seem

to be everywhere. Tuberculosis is not a necessary evil. Two herds of the Red Danish race, that were fine specimens of their type, of 38 and 39 head respectively, were found to be absolutely free from the disease. In these herds in-and-in breeding had been extensively practiced; a large number had descended from one cow purchased as far back as 1862. Though the conditions in these instances would seem to favor the development of tuberculosis, they have always been free from tubercular taint.

In the district of Argenmuende, Germany, among 13,000 head of cattle slaughtered none were found to be tuberculous, and in the district of Teltow, among 40,000 head killed, only 15 cases appeared. On the other hand, in the German Empire, on an average, 16 per cent. to 25 per cent. of all the cattle killed at the slaughter-houses have been found to be consumptive.

Although I do not wish to maintain that in the United States the condition of affairs in regard to bovine tuberculosis is as bad as in the older countries, it is my impression that the time has come when something should be done to control this plague, that is always a threat to man and a foe to the cattle industry. I will not touch at this time upon the relationship of animal and human tuberculosis, suffice it to say that consumption of man and beast is one and the same disease, caused by one and the same bacterium, and that it is transmissible mutually from beast to man and from man to beast. Although the natural infection of man, from the animal, has been somewhat exaggerated of late; that such a transmission does occur and is always probable, no man who has given this vast subject thought, can honestly deny.

Though from the flesh of tuberculous animals, if the disease be generalized, an infection *can* take place, from the internal organs (viscera) and from the *milk* the disease is most commonly transmitted. It has been demonstrated that in the milk the germs of consumption have been found, even if the udder be apparently intact; and though the bacilli do not multiply in milk, they can, nevertheless, use this fluid as a convenient means of transportation and to infect susceptible individuals.

Calves and hogs are most commonly infected through bovine milk, and in Denmark, where the milk of cows is used to fatten colts, tuberculosis in horses is not a rare disease. In other countries equine consumption is almost unknown. In calves, hogs, and Danish horses the disease appears usually as a "feeding tuberculosis" of the bowel and mesenteric glands, with secondary nodules in the lungs. It would seem, then, to be indicated that these sources of consumption should be controlled. Against tuberculous organs and milk a sanitary war should be waged. To eradicate these sources of contagion we should have first and before all things a thorough system of meat and milk inspection in every municipality in this broad land. Not the mere espionage of an antiquated, ignorant butcher,or of some one possessed of a political "pull," but a well-equipped and established slaughter-house, where trained men would devote their lives and energies to the inspection of all animals killed and the products thereof. Experts who were trained in the pathology of our meat-producing animals, whose one aim should be to protect the citizens of their city from the chance of becoming poisoned or diseased by the ingestion of nocuous flesh. The dairies of the environing country should be under the rigid control of skilled men well versed in the infectious and contagious diseases of animals. The milkman should be made to not only guarantee his client a certain percentage of solid constituents and butter-fat, but should also be compelled to have his cattle herd subjected to a thorough, searching examination at stated periods, that he may be able to assure his customers that the milk that he leaves at their door is free from the taints of disease, especially of the death-dealing tuberculosis. The latter is only now possible in that we have in that grand discovery of Koch an agent, though not always infallible, upon which great reliance can be placed to unearth bovine tuberculosis in its latent or incipient forms.

IF you want the proceedings of the Nashville meeting of the U.S.V.M.A., in compact form, read the REVIEW.

SPECIFIC CURES IN CERTAIN DISEASES.

By S. H. Ward, V. S., St. Cloud, Minn.

A Paper read before the Minnesota State Veterinary Medical Association.

When invited to subscribe something of interest for this meeting, I was at a loss what to offer the Association; and in accepting the invitation I felt I was incapable of doing justice to any subject pertaining to any particular disease. Our periodicals are full of interesting articles, and cover the results of diligent research and observation on nearly every disease known to science. The thought suggested itself that any essay would be an infliction on you, hence the somewhat unusual departure from the line generally taken at a meeting of this kind. I offer you this paper, trusting you will weigh carefully and take these receipts for what they are worth, and should like it to be distinctly understood that my experience with them is very limited, and, therefore, advise cautious experimentation before putting much faith in them.

It has always been my policy to ask owners what they thought the trouble was when my services have been requested, and oftentimes the cause of the trouble is told unthinkingly, when otherwise it would require considerable pumping, even if we succeeded at all in eliciting any cause from the owner or attendant. If there are any bystanders around, we are informed, in nine cases out of ten, that it's the water, "doctor." We receive this gratuitously, and are called on to express our thanks and deep obligations, when we are further informed that the speaker's "grandfather," or some other remote relative, was the best "cow doctor" in their part of the country, and *he* always used this or did that, and never lost a case. I have suggested to the grandson that maybe he never had a case to lose. I find, however, that any remarks I may make are not accepted readily, and still more vigorous is the resistance when one tries to sit on them, and by adopting the old adage, "Hear, see, and say nothing," I have gleaned the following valuable receipts, which I now offer to you for the first time:

Colic.—Take of patient's manure a small piece, roll in a burdock leaf, and give as a bolus. Relief is obtained in twenty minutes.

Blindness (*Cataract, or other cause*).—Take of unsalted butter two pieces, about the size of a pea, and drop into each ear. A cure may be expected in four days.

Swellings of any description.—Take cow manure, kitchen grease, and salt, equal parts, fry well, and rub into parts every day.

Worm in the Tail.—Make an incision four inches long, close up to root of tail, and another near the end ; fill both with pepper and salt. This may be relied on to draw not only the worm, but four or five dollars from the owner's pocket.

Proud Flesh.—New salt pork bound around the part.

Distemper.—Take of concentrated lye ℥ j, and give in urine. Funeral service may be performed inside of twelve hours.

Rheumatism in Hogs.—Hen manure, to be given in feed three times a day.

Spavins, Ringbones, etc.—My best receipt is for spavins, ringbones, and all exostoses—a receipt for which three hundred dollars was given and the exclusive right of operating in the county. For the good work which was done, the operator received a certificate, entitling him to practice as a veterinary surgeon. The donor of this has, he tells me, dozens of specimens in his office of spavins and ringbones, which, in his own words, he "curled out" in two days, and, by his manner, I should judge is very proud of his success, and shows them to would-be customers with considerable verbosity and delight. The mixture is made up of H_2SO_4, HNO_3, āā ℥ j, quicksilver, ℥ ij, and candies, ℥ ss. ; at least my original receipt reads thus, but I presume cantharides is meant. Care must be taken in making up the mixture, or one will be apt to lose interest in any further chemical mixtures. A little of this is to be painted on once a day until growth curls out. No after-treatment is needed, unless it be a new leg or a bolus of ℥ j "I-dide of lead," which may be given to counteract any tend-

ency to open joint. This mixture is guaranteed to leave a nice, clean-looking leg, provided operator is cautious and the slough ever heals up. In any case, only a small blemish is left, that only the most fastidious can object to, provided they don't notice it.

Lung Fever.—Teaspoonful of spirits of nitre, poured in the ear once a day.

Poll Evil.—Insert seton in breast, to prevent, I am told, the corruption from reaching the heart, and killing patient.

Impaction of Colon.—Place a handful of snuff back of tongue. It has never failed to give relief.

In conclusion, gentlemen, bear in mind I don't say these receipts are infallible; and, remember, should you have any occasion to make use of them, and are successful, give credit to whom credit is due.

REPORTS OF CASES.

INTERESTING RECOVERY FROM HYDROPS AMNII AND ASCITES.

By M. J. JONES, Veterinarian, Cuba, O.

On July 18th, 1897, I was called to the farm of one Mr. S., located six miles from my office. On arriving was shown a bay mare, weighing about 1200 lbs., about twelve years old, in the recumbent position, and apparently unable to get up. We turned her over and with some difficulty assisted her to her feet. She was suffering considerably, lifting the right hind limb and looking at her flank. On examination I found the right side of the udder swollen hard, tense and hot, extending along the surface of the abdomen; pulse 60, temperature 102°F., respiration considerably increased. Was told she was in the eighth month of gestation and had aborted twice at about this period. I gave her the following anodyne: F. ext. belladonna, ℥i; tinc. opii, ℥ss, in a little cold water; emptied bladder with catheter, contents highly colored and deficient in quantity; patient seemed much easier. Prescribed pot. nitras, ℥ss, twice per day, in drinking water, and left. Owner called on the 19th, saying the patient was worse, having passed a very restless night, lying down and getting up every few minutes, raising hind leg and looking to side; swelling increasing

very fast, abdomen giving away and hanging down almost to hock, swelling extending upwards to vulva. Called to see her at 10 o'clock A. M., and found her as before described. After careful examination diagnosed dropsy of amnion and advised tapping per vagina; also requested to have Dr. Myers, V. S., of Wilmington, O., called in consultation, which the owner agreed to. Gave anodyne and waited for Dr. Myers, who arrived about 2 o'clock P. M. After examination the doctor said the diagnosis was correct, in his opinion, but his experience was very limited in such cases; also that he had no treatment to offer better than the one proposed. Patient was lying on her right side and could not get up. We repeated anodyne and inflated os with belladonna. Found envelopes tense and round; could not feel fœtus; punctured chorion with finger; requested the doctor to assist. After finding the opening I had made, he queried, "Shall I go on through?" which I answered in the affirmative. He then proceeded to puncture the amnion by slightly scratching with the finger-nail; the liquor amnii flowed profusely on removing his arm. We made no attempt to draw off fluid, but left the excess to flow through the aperture. Quite a nervous shock followed the operation, the walls of the abdomen collapsing, udder seemed flaccid, liquid continuing to flow for several hours, when the patient moved. Dr. Myers left for home, prognosing a critical condition, with probable fatal termination. I had the patient removed a few feet from the place of operation, clothed comfortably, and then administered nitrous æther and ammonia aromat., followed by fl. ext. belladonna every two hours, in ʒi doses, and left for the night.

Called at 8 o'clock on the 20th; found patient several yards from where I left her, grazing apparently without pain, appetite good, nervousness subsiding, locomotion fair, abdomen very pendulous, discharge from vagina almost arrested; requested animal removed to barn lot some forty rods away and up quite a steep elevation, which she climbed quite readily, arriving at door-yard without much fatigue; prescribed iron sulphate, gentian rad., āā ʒii, twice per day. Thinking system unable to withstand shock likely to follow removal of fœtus, concluded to defer operation until next morning. It was impracticable for me to call next morning, but on arriving at home in the evening about 9 o'clock found order on slate to come immediately; called and found patient prostrate and suffering intensely, just having delivered a fœtus, in which decomposition had set in, which, in my opinion, should have been removed twelve hours

before; gave fl. ext. bella., ℥ i. Anticipating metritis, enteritis, peritonitis, laminitis or septicæmia, prescribed spec. tinc. aconite, thirty minims, given in ten-minim doses every three hours; disinfected surroundings, sprayed patient with water medicated with carbolic acid, clothed comfortably, advised quietude, with occasional turning from side to side, with a little water and feed if desired; left for the night.

Called on the 21th at 9 o'clock A. M., and found patient up, with fair appetite, abdomen much more tense, expelling fæces and urine with great difficulty, had abdomen bathed with hot water and neatly bandaged; gave iron and gentian in former doses, also pot. chlo., ℥ ii, twice per day; sprayed patient with carbolized water, covered with sheet, advised light diet with water *ad libitum*. Called on 22d and found patient improving, discontinued chlorate, continued iron and gentian, adding powdered nux, ℥ ss, twice per day.

Called on the 23d and found patient improving, but with swelling on udder and abdomen hard and hot; requested it well rubbed with the following: Unguentum adeps, ℥ i; acidi carbolicum, mx; continued treatment.

Called on 24th, and found patient improving, swelling greatly reduced, appetite good, being able to evacuate per rectum and bladder with more ease, respiration short and rather jerky, with indications of liquids in abdomen (probably caused by long continued pressure on the peritoneum); animal still standing, looking rather depressed, at times rousing up and looking better; added to former treatment pot. iodide, ℥ ii, twice per day, in feed, of which we gave a liberal supply, such as would be easily digested.

Called on 25th, and found patient improving, temperature 102° F., pulse high and rather feeble, respiration short and jerky, animal standing, appetite good, swelling on surface of abdomen much reduced and not so painful to touch, animal showing disposition to move about more, sometimes grazing for quite a while, bowels in fine condition, patient urinating without much pain; examined thorax, because I was satisfied there was but little water there (if any); examined abdomen and decided there was considerable liquid in lower part behind diaphragm, which in our humble opinion accounted for the general disturbance of system.

Being rather prejudiced against the operation of paracentesis abdominis in ascites, and feeling hopeful of being able to remove exudate, and restore health by the use of tonics, hæmostatics,

diuretics and discutients, concluded to continue the iron and potassium, with same dose of nux, to strengthen the heart and tone up the nervous system. I caused the bandage to be tightened (which had been attended to every 24 hours), and left for the day.

Called again on 27th and found patient standing under shade tree. On examination found pulse 60 and much stronger than at any time previous; temperature 102° F., respiration 17 and full, apparently without pain, heart much stronger, animal going to water and feed of her own accord, exercise causing little disturbance of the system. Continued treatment, advised liberal feeding, with good grooming and hand-rubbing of abdomen.

Called on 28th, found marked improvement, with exception of swelling on udder, which showed but little improvement, being rather sensitive to the touch; patient quite lively, moving from place to place, shaking herself and rubbing against the trees and other objects, trying to get out of enclosure. Continued treatment, giving one dose of nux, instead of two in the 24 hours, patient still standing.

Called on 30th and found patient had not lain down, temperature 101$\frac{3}{5}$ F., seemed to be improving finely, thought best to discontinue iodide for a few days, patient having taken ℥iii; continued iron and gentian with one dose of nux per day, and liberal feeding, swelling leaving anterior portion of abdomen, but being considerable on udder and posterior portion.

Called on August 4th; patient improving, lying down and getting up at will, with every prospect of a perfect recovery.

I now recall six somewhat similar cases I have treated in the last ten years with the following result (but all appearing in the last month of gestation): One death by metro-peritonitis, three perfect recoveries, one became again impregnated, carrying fœtus full term, foaling without assistance, colt and mother living and doing finely; two imperfect recoveries, being unable to restore peritoneum to normal condition. The animal is living and performing daily labor.

OBSTRUCTION OF SMALL INTESTINE OF DOG BY BLOCK OF WOOD.

By Chester Miller, V. S., Ottumwa, Iowa.

I very much enjoy the monthly visits of the American Veterinary Review, and consider it my duty, as well as every other progressive veterinarian, to contribute as far as possible such information as will be interesting and instructive to its

many readers. In order to effect this result, I shall assist by sending in the report of a case which came under my observation last month. I noticed lately several very interesting cases reported on diseases and treatment in dogs, and being rather a warm friend of the noble canine and his welfare, I shall report the following case.

On June 13th, the owner of a fine pointer dog called at my office to consult me, as he was anxious to know what was wrong, and whether anything could be done for his relief. From his description of the case, I was unable to give him anything like an intelligent diagnosis, and went to his residence to make a thorough examination.

I found him lying in his kennel, apparently asleep, but on calling him by name, he arose, and with the greatest effort and care managed to crawl out and come to us. He manifested every symptom of acute abdominal pain, but I could not understand or locate the exact situation of his trouble. He had been ailing some four days prior to my visit, during which time purgatives had been given and acted freely; but he refused to eat anything at this time, except to lap a little milk and water, persisting throughout in lying down and keeping as quiet as possible.

I prescribed simple anodyne treatment that evening, and returned next day, to find him no better. Followed up with similar treatment, with the addition of hot woollen cloths around his body, which seemed to give him some relief.

To make a long story short, he continued to get weaker and weaker until on the night of the 20th he passed away.

The owner being very anxious to know the cause of death, came to the office next morning and desired a post-mortem. On opening the abdominal cavity I soon found the cause of death. In the small intestines, about three feet from the pylorus, was lodged a piece of wood, one inch and a quarter square, which of course had caused a severe inflammation of some four or five feet of the bowel, and a considerable portion of the peritoneum.

I at once thought of the X rays, and considered this a good case on which to try it, and having located the obstruction, to perform laparotomy, and possibly save the much-prized dog.

RUPTURED BOWELS CAUSED BY CYST.

By T. F. Moyle, V. S., Waterford, Wis.

On May 17, 1896, I was called to see a mare, said to be sick

with colic. She was a Clydesdale, with foal at side, six weeks old. Owner said she had never been sick before. She was standing in the corner of a box stall, looking rather dumpish, with some abrasions about the head, as if done while cast. The foal was continually sucking, indicating non-secretion of milk. Temperature $105\frac{1}{5}^{\circ}$, pulse 60, respirations normal; entire absence of peristaltic action, membranes injected and somewhat icterous. Diagnosis, impaction of colon. Gave aloetic purge.

On 18th called to see how patient was doing; found her in much the same condition, no passage from bowels, eating and drinking a small amount, with no colicy pains. Gave olei lini, Oi, calomel, ℥ i, olei terebinth. ℥ i; left two drachms calomel, to be given 6 hours apart.

On 19th mare in much the same condition, taking some food, no colicy pains, no passage from bowels. Gave rectal injections; Barb. aloes, ℥ i, in bolus, which operated next day. Mare seemed somewhat better. Did not see her again until the 24th, when I was called, saying the mare was much worse. On arrival mare had been dead half an hour. Held autopsy, and on opening the abdomen a great quantity of food and water came rushing out. Having a wound on my left hand could not manipulate the bowels as I would like to have done. The peritoneal coat and the intestines were gangrenous. At the juncture of the ileum and the cæcum there was a cyst the size of a 16-quart measure. In dividing the same its interior resembled the inside of an orange in color and consistency. There was also a rupture of the intestines where the cyst adhered to the ileum.

PYÆMIC ABSCESS IN LUMBAR REGION, CAUSING PERITONITIS AND DEATH IN A COLT TWO MONTHS OLD.

By T. F. Moyle, V. S., Waterford, Wis.

On August 3, 1897, I was called to attend a sick colt, said to have been in good health from time of birth, fat and well developed; found on morning of 3d down, seemingly not able to rise; owner gave a dose of brandy; came to town, ordered me out to see it. When he arrived home found colt up, walking around, seeming much improved, as he expressed it. Gave another dose of brandy, went to his breakfast; on returning, found colt dead. I arrived soon after and held an autopsy. In the abdominal cavity there was a large quantity of bloody water, peritoneal coat in shreds; in the left lumbar region, behind the kidney, an abscess the size of a two-quart measure adhered to

the pelvic bones. The cremaster muscle and bladder were also involved by adhesions. Running through the centre of this abscess was a vein forming a well-defined thrombus, the lumen of which was intact at least two-thirds of the distance through the abscess; balance taken up by the thrombus. On the outside of the abscess the vein was three times its normal size. The abscess was formed of distinct layers resembling an onion. From the thrombus to the outside, two-thirds of the distance, there was no pus; the balance was filled with a dirty-grey bad smelling pus and detritus. The kidneys were in normal condition; also other organs, with exception of bowels, which were inflamed. My theory of this case is that the infection took place from the umbilical vein at the time of birth, but cannot account for the thrifty condition of the foal.

To Add to the History of Fractures.—In the *Veterinary Journal*, from every-day notes by Mr. H. B. Elliot, are found the records of a few cases of fractures, which, leaving aside their ætiology and their symptoms, are of special value in demonstrating the value of the work of nature (almost left alone) in the repair of those lesions: *Case 1.*—A fracture of the metacarpal bone above the fetlock. Absolutely no treatment. Recovered comparatively sound. Toe of the injured leg slightly turned outward and a callous at the point of fracture, are the only blemishes left. *Case 2.*—Fracture of the metatarsus. Stiff leather splint from the hock to the fetlock, held in place by sidestraps. Complete recovery in three months. *Case 3.*—Mare in running away got injured and had a large swelling on the near-side of the chest. This was lanced. Ten days later, the swelling was still there and hard. Incision of the walls and digital exploration permitted the removal of several fragments of the first rib. Recovery. *Case 4.*—A Californian horse, six years old, had a heavy fall, after which had a swelling over the seat of the ilium, shortness of the limb, difficult extension, pain on pressure per rectum. He was slung, had soothing applications, several blisters and recovered fairly sound, but weak. He died ultimately with osteo-porosis by fracture of the maxillary bone. *Case 5.*—A transverse fracture of the ulna, with dislocation at the elbow; destroyed. *Case 6.*—Jersey calf with fracture of the radius and cubitus. Plaster splint, which, being uncomfortable to her by the weight, was replaced by lighter one of wood and calico bandages. Recovery complete, and use of the leg fearlessly after a month.

THE TUBERCULIN TEST IN MASSACHUSETTS.

REPORT OF THE EXPERTS EMPLOYED BY THE LEGISLATIVE COMMITTEE.

(*Continued from page 334.*)

Having published in the August REVIEW the reports of Drs. Ernst, Smith, and Kinnell, we present in this number the lengthy one of Dr. Billings, which, with that of Dr. Wood, to be published in the October issue, will complete the report made to the Legislature of Massachusetts by its special committee.

REPORT OF FRANK S. BILLINGS, M.D.

GRAFTON, MASS., May 5, 1897.

To the Honorable Members of the Massachusetts Legislature, appointed to examine certain cows from Lowell and vicinity which had been subjected to the "tuberculin test," and to engage "experts" to conduct such an examination, as to the reliability of the "test."

GENTLEMEN.—In accordance with your request, I was present and took part in the examination of 130 milk cows, 129 of which, it was claimed, were tuberculous by the tuberculin test, said examination having taken place on April 13, 14, 15 and 21, and again on May 4 of 20 cows selected from those "which did not react" from the same farms as those previously examined, and beg herewith to submit to your honorable consideration the accompanying report.

The study of the results of our examinations forces the following conclusions:—

1. That, if the position of the extreme bacteriologists and that of the Massachusetts law on the subject be scientifically reliable, and founded on undisputable fact, and every cow (or bovine) in which one solitary tubercle is found, on the most exact observation at slaughter, is to be considered as "dangerous meat," and unsalable for human food, and in life such a cow is dangerous as a milk-producer to those who should consume her milk,—then I say that the tuberculin test is a failure and deceptive, and as dangerous a snare as the disease is claimed to be, for we have seen that it let seven "vile sinners" escape.

In this connection it is an undisputable fact that, if bovine tuberculosis is as dangerous to cattle and man as claimed by some and endorsed by the Massachusetts law, both species would long since have perished off the face of the earth, according to that beneficent and infallible principle, the survival of the fit and gradual destruction of the unfit.

A very serious weakness in the tuberculin test is that it in no way aids the physical diagnosis (ordinary examination) in indicating the amount of disease present in each individual, as you had ample opportunity to observe. On the other hand, even though not infallible, the tuberculin test must still be pronounced a most valuable agent in determining the extent of tuberculosis in our cattle, for which the physical examination is practically valueless; but, again, it must be emphasized that "the test" is absolutely no guarantee that a given animal is "*free from tuberculosis*," and hence no reliable agent by means of which to keep tuberculous cattle out of the State, or farmers from purchasing them. With probably but one exception (tag No. 9173, belonging to Mr. Merrill), in which the solitary tubercle was dead and calcified, the disease would have gone on extending, and in the end every one of the other six of the tuberculous cows which did not react could become a centre of infection to healthy cattle, if in a barn with them.

I wish to impress on you that in cattle *it is the manure* and not "sputum" which is and must be considered the dangerous factor in tuberculous cattle, and by which the disease is spread in stables. This fact is again of vastly more importance than the milk or flesh, if the dangers of bovine tuberculosis are as claimed by many. On the contrary, *cowherds* and dairy maids are no more prone to tuberculosis than other people. The American Indian, who is not a milk consumer, is remarkably susceptible to tuberculosis, *on domestication*.

Again, do not forget that not one case of tuberculosis in man can be attributed to that of cattle with that critical exactness which can only be termed "scientific." Until every other possible cause has been exactly excluded, the verdict of the cow must be still that of the Scotch jury, "Not proven." The State cannot afford to make absolute mandatory laws on such evidence and such a verdict, and yet that is just what has been done.

Of the 130 cattle first examined, considering the question of tuberculosis alone, and assuming all other conditions as "marketable," every cow but tag No. 9698 would be considered as suitable for consumption in Europe, and probably that one as "second-class meat," and the majority of that 130, and all of the second lot, the 20 non-reacting cows, would be passed as "No. 1" beef in any market in Europe.

Not one of those 7 cattle found tuberculous among the 20 non-reacting could be considered as an immediate source of dan-

ger to man or cattle, in the condition it was at the time of examination.

Of the 150 cows examined, 134 were faintly tuberculous, or about 90 per cent. This indicates that about 75 per cent. of the bovine milking machines, tied to a chain six months, sometimes for twelve in a year, and forced "for all there is in them" to supply the demands of our cities, must be tuberculous.

The "war cry" that bovine tuberculosis is the chief, or even an essential, cause of human tuberculosis is, "*No bacillus, no tuberculosis.*" That is one of those dangerous half-truths which are sometimes more misleading than serious errors. *The whole truth is, no constitutional predisposing weaknesses, no enervating manner of life, proper ventilation and healthy exercise,—no tuberculosis, let the bacilli be present or not.*

A most important lesson to be derived from the 7 tuberculous cows which did not react is the practical impossibility of relying on the tuberculin test, even when combined with physical examination, in the purchase of cows, that they will be free from the disease. The majority of those 7 cattle, while none were dangerous at the time of slaughter, would eventually develop general tuberculosis, and, if only one such be present, become the centre of infection for an otherwise free stable of cows so far as tuberculosis is concerned, as previously stated.

The chief work for the State would and should be to place the sanitary care of all cow stables in the control of the Cattle Commission, and to have a quarterly revision of the cows by competent district veterinarians, and the stables kept up to a certain degree of cleanliness. All animals suspicious on physical examination might, or should, then be treated according to a common-sense law. The method of quarantine, as I have seen it practised, is practically valueless, save in preventing the sale of animals. Suspected or tested animals have been left in the same stable with other cattle, taken care of by the same men, and their manure tracked all over the stable and premises, as of old. While not absolute as a test, as shown, still tuberculin is a valuable test, most especially to the breeder of fancy stock, and even the farmer should not neglect it if there is any possibility of raising his calves, or selling them to be raised. All "reacting" animals should certainly be excluded from breeding. For all other purposes I do not consider tuberculin either a sufficiently reliable or necessary "test," when common-sense is applied to the use of such animals as milk-producers or for flesh-consumption.

Again, as to the milk of the majority of the 130 cows first examined and all of the last 20, I think that every susceptible person, with predisposing weaknesses, is a thousandfold more exposed to the danger of infection in our city streets, in public conveyances, and the poorer classes in all their surroundings, than from the consumption of milk from such cows.

If this examination is any criterion of the percentage of tuberculosis in the dairies supplying our cities and towns, then there is scarcely a person who does not take tubercle bacilli into his system more or less frequently. As of the seeds which fall on stony ground and fail to develop, so of the tubercle bacilli; unless the individual supplies a suitable soil for them, they pass on harmless, or die in the juices of the digestive tract. In considering this question, nothing is so important as the power of resistance of the strong, rugged organism, and the many conditions unfavorable to the development of the bacilli. It is important to remember that the infection of man by bovine tubercle bacilli is not proven, nor is the absolute identity of the bacilli of man and cattle. Efforts to transmit human tuberculosis to cattle have signally failed in producing any such thing as general tuberculosis in cattle.

It must be evident to you that the State cannot control the introduction of absolutely tuberculosis-free cattle from other States, even if "tested," for the repletion of our dairies, and that under existing conditions the driving of cattle from one State to another is a comparatively easy matter. On this account the State paying the most for "reacting" cattle is sure to have the most to pay for.

Finally, so long as cows have to be treated as mere machines; so long as they have to be confined for practically six months in the year, and often for the whole twelve months, in order to get all possible out of them; so long as no attention is paid to the exclusion of suspicious stock from breeding; so long as this whole system continues, the State may proceed on its present plan, but in the end it will find it is trying to bail out the Atlantic with a tin dipper, paying a terrible price for the experience, but doing little to lessen the disease.

Thanking you for the confidence you have honored me with, and trusting to have merited the distinction, I remain,

Your obedient servant,

FRANK S. BILLINGS, M.D.

The following post-mortem findings accompany Dr. Billings' report:

Examination of Tuberculin-tested Cattle from Lowell and Vicinity at Brighton Abattoir, April 13, 14, 15 and 21, and May 4, 1897.

Number of Examination.	Number of State Tag.	Name of Owner.	Organs Examined.			
			Glands of Throat.	Lungs and Glands.	Liver and its Glands.	Udder and its Glands.
1	10224	A. J. Thissell	Tuberculous	Glands tuberculous	Nothing found	Nothing found.
2	10203	" "	Nothing found	" "	" "	" "
3	9622	C. E. Jones	" "	" "	" "	" "
4	9697	Osborn Merrill	" "	" "	" "	" "
5	10254	" "	" "	" "	Tuberculosis in liver.	" "
6	9677	" "	Tuberculous	" "	Nothing found	" "
7	10214	" "	Nothing found	Glands and lungs tuberculous	Tuberculosis in liver.	" "
8	9693	C. E. Jones	Tuberculous	" " "	" "	" "
9	10261	Osborn Merrill	Nothing found	Glands tuberculous	" "	" "
10*	—	—	—	—	—	—
11	9640	C. E. Jones	Nothing found	Glands tuberculous	Glands tuberculous	Nothing found.
12	10234	Osborn Merrill	Tuberculous	Glands and lungs tuberculous	Liver tuberculous	" "
13	10237	" "	Nothing found	Lungs and glands tuberculous	Nothing found	" "
14	9667	" "	" "	" " "	Glands tuberculous	" "
15	10288	" "	" "	" " "	Nothing found	" "
16	9630	" "	" "	Glands only	" "	" "
17	9637	" "	" "	" "	" "	" "
18	10262	" "	" "	" "	" "	" "
19	10298	" "	" "	Glands and lungs tuberculous	" "	" "
20	9678	" "	Tuberculous	" " "	" "	" "
21	9670	F. A. Fox	Nothing found	Glands tuberculous	" "	" "
22	9681	" "	" "	Glands and lungs tuberculous	" "	" "
23	9639	" "	" "	" " "	" "	" "
24	9662	" "	Tuberculous	" " "	" "	" "
25	9679	Osborn Merrill	Nothing found	Glands tuberculous	" "	" "
26	9671	F. A. Fox	Tuberculous	Lungs and glands tuberculous	" "	" "
27	9634	Osborn Merrill	Nothing found	Glands tuberculous	" "	" "
28	9675	F. A. Fox	Tuberculous	Lungs and glands tuberculous	" "	" "
29	9695	" "	"	" " "	" "	" "
30	9645	Osborn Merrill	Nothing found	Glands tuberculous	" "	" "
31	9673	F. A. Fox	" "	Glands and lungs tuberculous	" "	" "
32	9631	" "	Tuberculous	Glands and lungs tuberculosis	" "	" "
33	9611	" "	Nothing found	" " "	" "	" "
34	9615	" "	" "	" " "	" "	" "
35	9674	" "	" "	Glands tuberculous	" "	" "
36	9646	" "	Tuberculous	Glands and lungs tuberculous	" "	" "

29	9695	" "	"	"	"	"	"
30	9645	Osborn Merrill	Nothing found	Glands tuberculous	"	"	"
31	9673	F. A. Fox	" "	Glands and lungs tuberculous	"	"	"
32	9631	" "	Tuberculous	Glands and lungs tuberculosis	"	"	"
33	9611	" "	Nothing found	" " "	"	"	"
34	9615	" "	" "	" " "	"	"	"
35	9674	" "	" "	Glands tuberculous	"	"	"
36	9646	" "	Tuberculous	Glands and lungs tuberculous	"	"	"
37	9614	" "	Nothing found	" " "	"	"	"
38	10284	Osborn Merrill	" "	" " "	"	"	"
39	9601	F. A. Fox	" "	" " "	"	"	"
40	9626	Osborn Merrill	" "	" " "	"	"	"
41	10289	" "	" "	" " "	"	"	"
42	10264	N. L. Peavy	" "	Nothing found	Glands tuberculous	"	"
43	9659	C. E. Jones	" "	Glands and lungs tuberculous	Nothing found	"	"
44	9683	" "	" "	Glands tuberculous	" "	"	"
45	10287	Osborn Merrill	Tuberculous	Glands and lungs tuberculous	Gland tuberculous	"	"
46	9608	F. A. Fox	Nothing found	Lungs tuberculous	Nothing found	"	"
47	9617	C. E. Jones	" "	Lungs and glands tuberculous	" "	"	"
48†	9629	F. A. Fox	" "	Nothing found	" "	"	"
49	10231	Osborn Merrill	" "	Lungs and glands tuberculous	" "	"	"
50	9620	C. E. Jones	" "	Lungs tuberculous	" "	"	"
51	10293	Osborn Merrill	" "	Lungs and glands tuberculous	" "	"	"
52	9698	F. A. Fox	" "	" " "	" "	"	"
53	9609	" "	" "	" " "	" "	"	"
54	10232	Osborn Merrill	Tuberculous	" " "	" "	"	"
55	9621	" "	Nothing found	Glands tuberculous	" "	"	"
56	9613	C. E. Jones	" "	Lungs tuberculous	" "	"	"
57	10243	Osborn Merrill	" "	Glands and lungs tuberculous	" "	"	"
58	10285	" "	Tuberculous	" " "	" "	"	"
59	9665	F. A. Fox	Nothing found	" " "	" "	"	"
60	9638	" "	" "	" " "	" "	"	"
61	9660	" "	" "	Glands tuberculous	" "	"	"
62	9656	" "	" "	Glands and lungs tuberculous	" "	"	"
63	9666	" "	" "	" " "	" "	"	"
64	9682	C. E. Jones	Tuberculous	" " "	" "	"	"
65	9605	F. A. Fox	"	" " "	" "	"	"
66	9658	Osborn Merrill	"	" " "	Gland tuberculous	"	"
67	9625	F. A. Fox	Nothing found	Gland tuberculous	Nothing found	"	"

* Did not react. Should not have been sent. Hay wire in stomach and puncturing organs of chest.
† A large tuberculosis centre in vicinity of stifle-joint, left leg.

Examination of Tuberculin-tested Cattle, etc.—Continued.

Number of Examination.	Number of State Tag.	Name of Owner.	Organs Examined.			
			Glands of Throat.	Lungs and Glands.	Liver and its Glands.	Udder and its Glands.
68	9603	F. A. Fox	Nothing found	Glands tuberculous	Nothing found	Nothing found.
69	9619	" "	" "	" "	Gland tuberculous; abscess in liver, nature uncertain	" "
70	9607	" "	" "	" "	Nothing found	" "
71	9618	" "	" "	Glands and lungs tuberculous.	" "	" "
72	9604	" "	" "	Glands tuberculous	" "	" "
73	9612	C. E. Jones	" "	Nothing found	" "	" "
74	9660	F. A. Fox	Tuberculous	Lungs and glands tuberculous.	" "	" "
75	9684	" "	"	" " "	" "	" "
76	10300	N. L. Peavy	Nothing found	" " "	" "	" "
77	9650	F. A. Fox	" "	" " "	" "	" "
78	9657	" "	" "	Glands tuberculous	" "	" "
79	9668	" "	" "	Lungs and glands tuberculous	" "	" "
80	9672	" "	" "	" " "	" "	" "
81	9635	" "	Tuberculous	" " "	" "	" "
82	9624	" "	Nothing found	" " "	" "	" "
83	9627	" "	" "	" " "	Abscess in liver, probably tuberculous	" "
84	9606	" "	" "	" " "	Tuberculous abscess in liver	" "
85	9652	" "	" "	" " "	Nothing found	" "
86	9700	" "	" "	" " "	" "	" "
87	9676	" "	" "	Glands tuberculous	" "	" "
88	9669	" "	Tuberculous	" "	Liver tuberculous	" "
89	9602	" "	"	Glands and lungs tuberculous.	Nothing found	" "
90	10266	Osborn Merrill	"	Glands tuberculous	" "	" "
91*	9685	R. S. Fox	Nothing found	Nothing found	" "	" "
92	10222	E. T Fox	" "	Gland tuberculous	" "	" "
93	9632	R. S. Fox	" "	" "	" "	" "
94	9680	" "	" "	Gland and lungs tuberculous	" "	" "
95	9628	" "	" "	Glands tuberculous	" "	" "
96	9644	" "	" "	Glands and lungs tuberculous	" "	" "
97	9692	" "	Tuberculous	" " "	Gland tuberculous	" "
			"	" " "	" "	" "
					Nothing found	" "

92	10222	E. T Fox	" "	Gland tuberculous	" "	" "
93	9632	R. S. Fox	" "	" "	" "	" "
94	9680	" "	" "	Gland and lungs tuberculous	" "	" "
95	9628	" "	" "	Glands tuberculous	" "	" "
96	9644	" "	" "	Glands and lungs tuberculous	" "	" "
97	9692	" "	Tuberculous	" " "	Gland tuberculous	" "
98	10238	F. P. Fox	"	" " "	" "	" "
99	9691	R. S. Fox	"	Glands tuberculous	Nothing found	" "
100	10256	E. T. Fox	Nothing found	Glands and lungs tuberculous	Glands tuberculous, crural glands also.	Glands tuberculous.
101†	10269	D. S. Fox	Tuberculous	" " "	Nothing found	Nothing found.
102	9664	R. S. Fox	Nothing found	Glands tuberculous	" "	" "
103	9663	R. S. Fox	" "	Glands and lungs tuberculous	" "	" "
104†	10294	F. P. Fox	Tuberculous	Glands tuberculous	" "	" "
105†	10259	" "	Nothing found	" "	" "	" "
106	10271	Mr. Brown	Tuberculous	" "	" "	" "
107	10213	D. S. Fox	Nothing found	" "	" "	" "
108	10218	F. P. Fox	" "	Glands and lungs tuberculous	" "	" "
109	9693	R. S. Fox	Tuberculous,	Nothing found	" "	" "
110	10221	E. T. Fox	Nothing found	Gland tuberculous	" "	" "
111	10208	D. S. Fox	" "	" "	" "	" "
112	10239	E. T. Fox	" "	" "	" "	" "
113	9643	R. S. Fox	Tuberculous	Glands and lungs tuberculous	" "	" "
114	9687	" "	Nothing found	Gland tuberculous	Glands tuberculous	" "
115	10270	D. S. Fox	Tuberculous	Glands and lungs tuberculous	Nothing found	" "
116‡	10265	F. P. Fox	Nothing found	" " "	" "	" "
117†	10217	" "	" "	Glands tuberculous	" "	" "
118	9623	R. S. Fox	" "	Lungs and glands tuberculous	" "	" "
119	9698	" "	" "	" " "	Glands & liver tub'c's	" "
120	10277	E. T. Fox	" "	Glands tuberculous	Nothing found	" "
121‖	10266	" "	" "	Nothing found	" "	" "
122	9610	R. S. Fox	" "	" "	" "	" "
123	10219	D. S. Fox	" "	Glands tuberculous	" "	" "
124	9688	R. S. Fox	" "	Nothing found	" "	Gland tuberculous
125	9655	" "	" "	Glands tuberculous	" "	Nothing found.
126	9616	" "	" "	Glands and lungs tuberculous	" "	" "
127	10279	E. T. Fox	" "	" " "	" "	" "
128†	9633	R. S. Fox	Tuberculous	Nothing found	" "	" "
129	10263	E. T. Fox	Nothing found	Gland tuberculous	" "	" "
130	9654	R. S. Fox	Tuberculous	Lungs and glands tuberculous	" "	" "

* A questionable abscess in liver. † Mesenteric or intestinal glands tuberculous. ‡ Calf. ‖ One tubercle in gland of shoulder (axillary).

Examination of Twenty Cows from Same Herds, which failed to react in the Tuberculin Test, Brighton Abattoir, May 4, 1897.

Number of Examination.	Number of State Tag.	Name of Owner.	Organs Examined.			
			Glands of Throat.	Lungs and Glands	Liver and its Glands; Intestinal Glands.	Udder and its Glands.
1	9103	Mr. Thissell	Nothing found	Nothing found	Nothing found	Nothing found.
2	9145	Mr. Jones	" "	Glands tuberculous	" "	" "
3	9132	Mr. Merrill	" "	" "	" "	" "
4	9158	Mr. Thissell	" "	Nothing found	" "	" "
5	6576	Mr. Merrill	" "	" "	" "	" "
6	9137	Mr. Fox	" "	" "	" "	" "
7	9117	Mr. Thissell	" "	" "	" "	" "
8	9194	" "	" "	" "	" "	" "
9	9524	Mr. Jones	" "	" "	" "	" "
10	6558	Mr. Thissell	" "	" "	" "	" "
11	9184	Mr. Fox	" "	" "	" "	" "
12	9101	" "	" "	" "	" "	" "
13	6530	Mr. Thissell	" "	" "	" "	" "
14	9162	Mr. Jones	" "	Glands tuberculous; one small node in right lung	" "	" "
15	9173	Mr. Merrill	" "	One dead, calcified tubercle in bronchial gland	" "	" "
16	9167	Mr. Thissell	" "	Nothing found	" "	" "
17	9119	Mr. Jones	" "	One tubercle in gland	" "	" "
18	9104	Mr. Thissell	" "	Glands tuberculous; tubercles mostly calcified	" "	" "
19	9176	Mr. Jones	" "	Nothing found	" "	" "
20	6587	Mr. Merrill	" "	Glands tuberculous	" "	" "

Whole number examined 150
Found tuberculosis 134
Tuberculous 7 out of 20.
Did not react to tuberculin, 34 per cent.
Of the whole number, 90 per cent. were tuberculous.

The udder
Tubercles
Tubercles
Tubercles
had be-n four
Tubercles
Tubercule
In No. 10
the chest from

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SUMMARY OF EXAMINATIONS HELD APRIL 13, 14, 15 AND 21.

Per Cent of Organic Infection in the Cattle, per Gross Examination.

Out of 130 cattle:—

The glands of the head were found tuberculous in.....	30
The lungs were found tuberculous in.....	3
The lymph glands of the lungs were found tuberculous in..	45
The lymph-glands and the lungs were found tuberculous in	72
The livers were found tuberculous in.....	6
The glands of the liver were found tuberculous in.....	8
The glands and the liver were found tuberculous in.....	4
The glands of the udder were found tuberculous in.....	2

The udder was free from tuberculosis in all the above cattle.

Tubercles found in the vicinity of the stifle in 1 case, *and not elsewhere.*

Tubercles found in the crural glands in 1 case (that is inside the hip basin).

Tubercles found in the mesenteric glands in 5 cases, but not carefully looked for, as they had been found elsewhere in the same animal.

Tubercles found in the *axillary or shoulder gland once, and not elsewhere.*

Tuberculosis not found in 3 cases that reacted on gross examination, Nos. 73, 91 and 122.

In No. 10 "no reaction" reported, and no tuberculosis seen. Extensive lesions in organs of the chest from nails in stomach.

(*To be continued.*)

"DROPPED ELBOW" IN THE HORSE.

AN INTERESTING CASE, WHOSE LESION IS THE SUBJECT OF VARIOUS OPINIONS.

By E. HANSHEW, JR., D.V.S., Brooklyn, N. Y.

On Sunday, June 2, 1897, I drove my chestnut gelding, which was, and had been, in perfect health and condition. A shower had caused the pavements to be somewhat slippery, and when within a few blocks of home, the animal's left forefoot slipped, not more than six inches directly forward. He continued his trot without lameness, but, in a block or so, began to sweat and go lame and lamer, until when three blocks from home I had to take him out, and it was with the greatest difficulty that he carried himself to his stall.

The point of the elbow was dropped fully nine inches from its normal position, and a distinct depression was seen extending from the posterior border of the scapula to the olecranon. The knee and fetlock were in extreme flexion and only the extreme point of the toe rested on the floor. He suffered intense pain during the rest of that day, but after that laid down and got up and ate well, and showed no sign of pain, but was unable to draw the leg under him, though he could lift it forward. By pushing the knee back and lifting the olecranon, I could place the leg in its normal position, and he could stand on it until he shifted his weight, when it would drop back to the position described. The flexors of the phalanges seemed to be tense and somewhat rigid.

I allowed him to stand in a box stall for four or five weeks, during which time there was not the slightest improvement.

Then, in one night, he made a decided gain, and that day I blistered the region of the extensors of the forearm and antea and postea spiratus muscles. Improvement was very rapid, so that about the fourth day after the blister was applied the limb was carried to its normal position at times.

During the next two weeks he came to walk almost sound, and is now enjoying a season at pasture, though when I last saw him the hollow described was still persisting.

Diagnosis.—I believed there was a rupture of the long extensor of the forearm. Others, as will be seen, sought a different explanation.

I invited two brother practitioners to inspect the case, and their impressions they have been kind enough to give herewith.

I would be much interested to hear from any others, what they think may have taken place to cause so suddenly, such grave symptoms, and after so long a time such sudden improvement.

SOME INTERESTING EXPERIENCES WITH THIS AND KINDRED AFFECTIONS.

By GEO. H. BERNS, D.V.S., Brooklyn.

The case of dropped elbow reported by Dr. E. Hanshew, Jr., in this issue, which, through the courtesy of Dr. H., I had the privilege of seeing, is of more than ordinary interest to me, by reason of the fact that I have seen a number of cases of a similar character in both front and hind extremities during the past eighteen years, some of which were destroyed and post-mortem examinations made, while others were allowed to live and got well.

In 1880, my second year in practice, four cases of "dropped point of hock" in heavy draft horses came under my observation, all of which were due to accidental causes and presented the following symptoms: while in a perfect state of rest nothing particularly abnormal could be detected, but the moment the patient was made to move and place weight upon the affected limb, the thigh would become enormously elongated, the metatarsus would bear upon the tibia, and the point of the hock (summit of os calcis) would drop to within five or six inches of the floor. These cases were diagnosed as "rupture of the gastrocnemius muscle," and, as recovery seemed impossible, the first three cases were destroyed; and in two cases in which post-mortems were made, the diagnosis was fully confirmed. The fourth case, which, in addition to all the symptoms above

mentioned, presented well-marked signs of osteo-porosis, was, although against my advice, sent to the country, and, strange as it may seem, in four months' time the affected limb had completely recovered; and, while the enlargement of the lower maxillary and facial bones still remained, the animal's general health appeared to be good, and he showed none of the characteristic constitutional symptoms of osteo-porosis. Unfortunately the owner disposed of his horse at this time, and I lost all track of him.

Since that time, although constantly engaged in active practice, I have not met with a single case of dropped hock, but have seen a few cases of dropped elbow, such as described by Dr. Hanshew. Remembering my experience with Case No. 4, of dropped point of hock, these shoulder-lame horses were placed under treatment, such as is commonly employed, and all of them made good, serviceable recoveries in from two to four months' time.

From these cases the interesting question arises: Is it possible for the gastrocnemius muscle of the hind leg, and for the triceps extensor brachii of the shoulder, when ruptured or torn away from their attachments to the bones, to unite or form adhesions with adjacent structures of sufficient strength to bear the animal's weight, and cause no lameness or inconvenience under the conditions in which the last-named cases were placed? or did we have simply paralysis of the muscles from over-distension, or other local causes, in all but the first two cases in which post-mortem examinations were made?

ANOTHER THEORY OF THE LESION IN DR. HANSHEW'S HORSE.

By Roscoe R. Bell, D.V.S., Brooklyn.

In that commendable spirit of fraternity which should exist among fellow-practitioners, which, by the way, is characteristic of Brooklyn veterinarians, and which always results in much benefit to those who participate in it, Dr. Hanshew was good enough to invite me to examine the patient whose peculiar accident and symptoms he has so faithfully described, and I confess that I have taken a great interest in the case, for the reason that I had never before seen in practice anything simulating such a condition. It is true Dr. Berns had a few weeks previously shown me a horse which was in a convalescent state and had regained the use of his shoulder muscles, showing simply the evidences of a very artistic operation of firing, the description of whose previous condition exactly agreed with Dr. H.'s horse.

It was explained by the doctor as a recovery from rupture of the extensors of the forearm, and as the principal consequence of the lesion was atrophy rather than inflammation and swelling, I was perplexed to understand how recovery could possibly have taken place. When, therefore, another exactly similar case was produced, showing at the time of my examination, no pain, no swelling, no constitutional symptoms—simply an inability to bear weight or to support the lower three-fourths of the leg, from the olecranon downwards, with distinct atrophy or depression in the mass of thick powerful extensors, I naturally felt interested to know the ætiology and exact location of the injury. At the time I was laboring with the idea of paralysis, and finally expressed that conviction to Dr. H., and subsequently the specific opinion that the paresis existed in the radial nerve, which I find described in Dollar's translation of Möller's "Veterinary Surgery," page 457, where the author describes symptoms gathered from some twenty clinical cases. This nerve supplies the muscles which were conceded to be the seat of the affection, and the absence of any symptoms or sequel of laceration, together with the sudden recovery, makes this diagnosis very clear to my mind.

In Chauveau's "Comparative Anatomy of the Domesticated Animals," the following paragraphs occur in the description of the radial nerve: "In its course it successively gives off (1) Before leaving the internal face of the limb, to pass beneath the mass of the extensor muscles of the forearm, a very thick fasciculus, composed of several branches—descending and ascending. The latter bend round the terminal tendon common to the latisimus dorsi and teres major, to become lost in the body of the great extensor; the others reach either the long and middle extensors, or the inferior portion of the principal muscle—the large extensor. (2) Behind the arm filaments to the caput medium and anconeus, and several cutaneous ramuscules, disengaged from beneath the former muscle, that descend beneath the skin on the anterior face of that part. (3) In the antibrachial region, branches to the extensor metacarpi magnus and flexor metacarpi externus, and the two extensors of the digit. In brief, we see that the radial nerve is distributed to, and therefore stimulates, the whole mass of the extensor muscles of the forearm and foot, besides a flexor of the latter; and that it endows the integument of the anterior antibrachial region with sensibility."

I fully agree with Dr. Hanshew that, as a favorable progno-

sis can usually be given, it is a most interesting condition to the practitioner, and its discussion in the periodicals can but be of the greatest benefit. Being in the position to be of assistance to my fellow-practitioners in this respect, I cheerfully offer the pages of the REVIEW for such a purpose.

EXTRACTS FROM EXCHANGES.

GERMAN REVIEW.

By W. V. BIESER, D.V.S., New York City.

THE PROBABLE IDENTITY OF THE BACTERIA OF APTHOUS STOMATITIS OF HUMAN BEINGS AND OF FOOT-AND-MOUTH DISEASE OF CATTLE.—Bussenius and Siegel investigated the question if the cause of apthous sore throat of human beings and of foot-and-mouth disease of cattle were identical; they found a bacillus morphologically and biologically identical with the *bacillus coli communis*, which, taken from the apthæ of human beings and inoculated in cattle caused foot-and-mouth disease, and furthermore this identical bacillus was found in the blood of the heart. Furthermore, in animals suffering from the disease, this bacillus inoculated in healthy animals caused the disease. Hence the authors believe the human and bovine disease to be identical.—(*Berl. Thierärzt. Woch.*) (My opinion [Bieser's] is as follows: If inoculations with coccidi according to P. and F., if inoculations with Sarcovici's bacillus, if inoculations with the small ovoid bacillus above mentioned to the satisfaction of each of its discoverers can cause the disease experimentally, only one conclusion can be drawn, viz., each of these organisms can infect the animal, each may be able to convey the poison of the disease, making it a polymicrobic not a monomicrobic disease.)

URTICARIA IN SWINE.—In R.'s locality urticaria occurs very frequently with occasional fatalities. The sickened swine die of symptoms of marked constipation, the illness lasting 5 to 10 days, when death often ensues. The localities thus visited are hilly, dry, and with very little water in summer. According to R. the urticaria begins in the form of erythematous patches the size of a quarter, circumscribed and elevated above the surface; then finally ecchymotic spots show themselves varying in color according to the length of time they remain present. In favorable cases resolution occnrs, the patches become pale, and epi-

thelial desquamation with scaling sets in, with separation also of brownish or blackish crusts.—(*Berl. Thierärzt Woch.*)

HYDROMETRA IN A NON-PREGNANT COW.—I found in a cow marked dyspnœa, an exceedingly large abdomen, hard to the touch, loss of appetite; the cow would not get up on her feet. By closing both nostrils with the hands and thus increasing the dyspnœa already present, the cow in her efforts to get air jumped to her feet, but could only be kept upright and on her feet by the combined efforts of several men. Examination showed 15 cm. inwards from the orifice of the vagina a stricture at the site of which the overlying mucous membranes were adherent. There was no difficulty in urination, as this adhesion did not occlude the meatus urinarius. Accouchment being expected in four weeks J. concluded to open up the stenosis vaginæ in order to get at the uterine orifice. In trying to open up the stenosis J. found that the uterine orifice was enmeshed or included in the stenosis, upon entering which orifice (uterine) 60–80 litres of turbid fluid escaped without any trace of a fœtus being present. —(*Berl. Thierärzt. Woch.*)

ENGLISH REVIEW.

DOCKING OF HORSES.—This question is seriously agitated in the English press. It originated after a prosecution started by the Royal Society for the Prevention of Cruelty to Animals against a member of the Royal College of Veterinary Surgeons. The trial brought before the court a number of veterinary celebrites of England, among them Prof. Pritchard, for the prosecution, and Prof. Williams, Prof. Axe, Mr. Dollar, and many others for the defence. The court dismissed the case. Since the *Veterinary Record* in several issues has published communications relating to the subject, and the veterinarian of the prosecution is receiving many remarks of unfavorable criticism. From the reading of these communications it is pretty evident that docking is not an operation that veterinarians will have to take off from their surgery. What is very peculiar, however, in the history of the case is the reference which is made to American horses, which, it was claimed were not docked. It is true that in some parts of the United States, docking is not permitted, that the veterinarian is amenable to the law, that, in fact, veterinarians have been condemned in court for it (we believe), but with all that, it was a poor statement to make, for the operation is extensively performed in some states, in large cities, where societies

for the prevention of cruelty to animals exist, and many others can be seen every day with tails which had been recently docked. The question in England has not been solved, and may remain unsolved for some time, as long as the Royal Society has not obtained the same power as the American.

ACUTE BRONCHORRHŒA.—Under this heading Mr. James Webbs, in the *Veterinary Record*, reports a rather peculiar case of a gelding which was found "breathing with great difficulty and having a large quantity of frothy fluid pouring from both nostrils and the mouth." The symptoms had lasted for a few hours, and the animal was presenting a very pitiable aspect. On account of the threatening dyspnœa, the trachea was immediately slit with a pocket knife, and the edges of the wound kept apart by strings tied round the neck. This served the purpose of a tracheotomy tube and gave much relief. Afterwards the head of the animal was bent down and from the opening an astonishing quantity of fluid escaped. A sedative of morphine and atropine was injected subcutaneously, and liniment rubbed down the neck and sides of the chest. The next morning the animal was convalescent.

VERMINOUS ANEURISM OF THE POSTERIOR MESENTERIC AND EXTERNAL ILIAC, WITH RUPTURE OF THE LATTER.—Almost every veterinarian has met with cases of parasitic aneurisms similar to those referred to by Mr. Hoare in the *Veterinary Record*, but the complication of rupture of the external iliac is somewhat unique. A three-year-old filly had been ill for some time and one morning found unable to rise. She had total loss of power of the hind extremities, which were cold; there was a large swelling of the vulva, upper regions of the right thigh and perineal region, with exudation of a thin blood-stained fluid. The pulse was weak and irregular, the respiration accelerated, visible membranes pale, body covered with cold perspiration. The animal died in the evening. At the post-mortem an extensive verminous aneurism of the posterior mesenteric artery by the accumulation of *strongyli armata*, was found. The right external iliac was ruptured and a large quantity of clotted blood was present in the surrounding tissues, in which the parasites were plainly visible.

CANINE AND FELINE SURGERY.—The surgical field of veterinarians is said by many not to be as varied as that of man, and yet when it is considered that all kinds of animals, domestic and others, may find themselves surgical patients of a veterinarian, and that they may present peculiar and specific forms

of surgical affections in all kinds of tissues and of organs, it seems that the difference between both surgeries depends only on the specific result to the patient and not on the nature or difficulty of an operation. For these reasons any cases of surgical interference deserve notice and have their value. Two cases of surgery in two small animals seem on this account of special interest. They are reported by Mr. W. Scott, in the *Veterinary Record*. 1. *Removal of a Number of Intravaginal Tumors from a Bitch.*—The history is not complete, except that she comes from a family which has been tainted with the same affection. She presented subcutaneously between the superior commissure of the vulva and the rectum a small tumor, the size of a marble; another in the tissue of the right vulval lip. There was a third one on the floor of the vagina, which was undergoing a necrotic process. Under the influence of chloroform the three growths were removed. That of the floor of the vagina had returned three weeks after and required a second removal. This was not successful; the tumor grew again. It was then dissected out and a greater amount of surrounding tissues removed also. This time there was no recurrence. Microscopical examination proved the tumor to be a fibro-lipoma. 2. *Removal of a Vaginal Polypus in a Cat.*—Old pussy had shown symptoms of labor. Nothing coming to light, she was examined and a circumscribed swelling was felt in the vagina, obstructing the way. Back of this tumor the meatus urinarius was felt. It was evidently a vaginal polypus. It was removed with comparative ease and the patient delivered of a dead and decomposing kitten. The next morning the cat showed symptoms of toxic intoxication and died two days later. The tumor was a simple fibroma. The infection of the surgical wound and of the patient was certainly due to the deleterious condition of the wound.

ENGLISH ENTRIES IN OUR HORSE SHOWS.—It is more than likely that some English exhibitors will make entries in some of the classes at the next exhibition of the National Horse Show Association, to be held in New York city, November 15 to 20. James T. Hyde, the secretary, has received a letter from Mr. Arthur May, of Leigh Woods, Bristol, England, asking for information in regard to several classes. Mr. May intends, if all is well, to exhibit about a dozen horses in the harness, tandem and four-in-hand classes. Foreign entries will lend a new and added interest to the show.

COLLEGE ANNOUNCEMENTS.

M'GILL UNIVERSITY (FACULTY OF COMPARATIVE MEDICINE AND VETERINARY SCIENCE).

The catalogue of this old and honorable institution is received, announcing the thirty-second session, which opens on September 22, by an introductory lecture, the regular course beginning on the following day. The very complete course of instruction formerly maintained is continued, and the faculty remains the same. The only alterations noted by us in the catalogue are the raising of the tuition fee from $60 to $75, and a very practical addition to the prize list, presented by the Massachusetts Alumni Association of McGill, for examination of horses for soundness. For the new catalogue address the Registrar, Charles McEachran, D. V. S., 6 Union Avenue, Montreal, Can.

THE KANSAS CITY VETERINARY COLLEGE.

The seventh annual announcement of this college comes to us in the form of a very neat little pamphlet, which gives full information in regard to the very comprehensive course by a faculty which probably includes more veterinarians than any other school in the country, there being seventeen in the various branches. Besides every department usually maintained in veterinary colleges, a post-graduate course is maintained to prepare veterinarians for the rapidly-developing demands of sanitary medicine, which is commanding the services of well-equipped men for market, dairy and milk inspection in the different cities. Therefore, this college, whose faculty is largely made up of men engaged in the service of the Bureau of Animal Industry, is specially well fitted to conduct a specialty like meat and milk inspection, with all the collateral branches necessary to impart a thorough knowledge of the various animal food products. The fees for the special course is $40. For the catalogue address Dean S. Stewart, 1404–1406 Holmes Street, Kansas City, Mo.

NEW YORK COLLEGE OF VETERINARY SURGEONS.

The announcement for 1897–98 is before us, and this year is replete with information concerning the college course, with illustrations of a hospital ward for horses and one for dogs, and the chemical laboratory. It also contains full details of the new State law governing the practice of veterinary medicine in New

York, the requirements for the degree, preliminary education, matriculation, etc., together with an official letter in reference to salaried positions under the Bureau of Animal Industry, and notes of other desirable posts awaiting qualified men. No important changes are noted in the faculty, nor in the general course of instruction. For catalogue, address the Dean, H. D. Gill, V. S., 154 East 57th Street, New York City.

CORRESPONDENCE.

THE ANÆSTHETIC USES OF CHLOROFORM AND COCAINE.

KANKAKEE, ILL., Aug. 16, 1897.

Editors American Veterinary Review:

In an excellent and carefully prepared paper on "Anæsthesia," by Dr. F. Torrance, which appeared in the August numbea of the REVIEW, he states that chloroform can be safely administered to the lower animals as an anæsthetic without the aid of an inhaler. I can fully bear out the correctness of this assertion, because for many years I have used chloroform as an anæsthetic without any ill effects by simply pouring it on a sponge or folded napkin, held to the nostrils and lightly covered with a towel or rug. By this method I have seen profound anæsthesia produced in a few minutes on a powerful draft stallion, weighing nearly a ton. I further agree with Dr. Torrance, in preferring chloroform to ether as an anæsthetic for the larger animals, because it is often utterly impossible to produce anæsthesia in horses or cattle with ether. I have seen a pint of C. P. ether administered by inhalation to a three-year-old colt without producing the slightest anæsthetic effect. In regard to administering chloroform to horses by inhalation standing, my experience has taught me that the quickest and safest way is to cast and securely tie the animal before administering the drug. I have seen horses become fairly frantic and break away from all restraint, endangering their own lives and the lives of their attendants, when attempts were made to chloroform them standing.

As to measuring the amount of chloroform to be administered to horses for anæsthetic purposes, I think this is very essential; for by doing so we are not so apt to get serious chloroform narcosis, a condition which can be easily produced in the horse. It is rarely necessary to use over two ounces of the drug in ordinary surgical operations, and sometimes even less than this is sufficient. Chloroform for inhalation purposes should, if pos-

sible, be highly prepared, because this drug on standing in bottles exposed to the sunlight is decomposed very rapidly; even in ordinary daylight the drug will slowly deteriorate. The drug kept in containers which are but partly filled and which contain atmospheric air, also decomposes. The principal products of this decomposition are hydrochloric acid and formic acid, together with certain gases. In this condition, the drug is not only irrespirable, but positively acts as a direct irritant to the respiratory tract. Practitioners should, therefore, be careful in selecting this drug for inhalation purposes.

In producing local anæsthesia with cocaine, it has been recently found that solution of this drug made up with warm water at a temperature of 120° F. produces instant anæsthesia when injected into the tissues at this temperature. The experiments of Tito Costo showed that in a case of double inguinal hernia in a man, in which a warm solution of cocaine was used hypodermically on the left side previous to operation, anæsthesia was immediate, not the slightest pain being felt during the operation. On the right side, a cold solution was used, with the result that severe pain was felt, although nearly twice as much cocaine was used as in the warm solution. In a case of poll-evil, operated on by me not long ago, the warm solution of cocaine was used previous to operation with the most remarkable anæsthetic effect,—the animal not evincing the slightest pain, although the abscess was one of the worst that has come under my care for a long time. A further advantage in using the warm solution is that sepsis is not so apt to occur as with the cold solution.

W. J. MARTIN.

PRACTICING IN NEW YORK STATE WHILE LIVING IN ANOTHER STATE.—ANSWER TO A CORRESPONDENT.

ALBANY, N. Y., August 6, 1897.

Editors American Veterinary Review:

DEAR SIRS:—Yours of the 1st inst., with postal from a reader of your journal, received. In answer to the question, "if a veterinary surgeon, a graduate of a New York City college, and living out of the State, is prohibited by law from practicing in New York City or State," would say, that there is no provision in the law which exempts a person from registering on account of being a graduate of a "New York City college."

Section 171 reads as follows, viz.: "No person shall practice veterinary medicine after July 1st, 1895, unless previously registered and legally authorized, unless licensed by the regents

and registered as required by this article; nor shall any person practice veterinary medicine who has ever been convicted of a felony by any court, or whose authority to practice is suspended or revoked by the regents on recommendation of a State board."

"Section 183. *Construction of this Article.*—This article shall not be construed to affect commissioned veterinary medical officers serving in the United States army, or in the United States Bureau of Animal Industry while so commissioned; nor any person for giving gratuitous services in case of emergency; or any lawfully qualified veterinarian in other States or countries meeting legally registered veterinarians in this State in consultation; or any veterinarian residing on a border of a neighboring State and duly authorized under the laws thereof to practice veterinary medicine therein, whose practice extends into this State, *and who does not open an office* or appoint a place to meet patients or receive calls within this State," etc.

The only reference in the law regarding a "New York college" is in Section 179, which reads, "and applicants who matriculate in a New York State veterinary medical school before July 1st, 1896, and who receive the veterinary degree from a registered veterinary medical school before July, 1st, 1897, may without further examination, on payment of ten dollars to the regents, and on submitting such evidences as they may require, receive from them an indorsement of their license or diploma," etc., etc.

Therefore, he may practice if he does not open an office in this State; but if he does, it will be necessary to register just as any other graduate.

Trusting that this explanation will be satisfactory, I remain,

Yours fraternally,

WM. HENRY KELLY.
Secretary New York State Board of Veterinary Medical Examiners.

"COULDENT FOOL THE FARMERS.*"

these Words Can be Found In the American Veterinary Review, April No Page 71, In a long acount of the meeting of the Famers Instiute at Hillsboro ohio Feb 8 the Hillsboro Gazette makes the Following comments on a Paper Read by me on Milk Fever the Writer goes on too say that it Satisfide me even if it

* In order that there may be no alleged misrepresentations upon our part of Dr. Gilbert's meanings, we print his letter just as received—*verbatim, et literatim, et punctuatim.*—EDITOR.]

did not the audience yes I am all Ways Satisfied too let the Peopel Know the truth that Is the Reason I am answerfng thear article, that article that they sayed Was copied from Flemings Veterinary obstetrics Could be found on page 656 nothing but the earliest History Can be found thear the rest of the article Can not be found in that Book or in eny other Book that I have, they say that I sent the same too the American Veterinary Review too be Published I never sent it thear too be Published they Wanted to have the Peopel Know that they Wher Intelligent and Fair minded but they did not have judgment good enough too Know What the farmers Wanted but they exposed thear Ignorance by Writing thhat Article but that Is nothing New for them to Write Fals Statements for they Wher Natural Born Impostors this is the advise of the Farmers too me not too put my Remedy for Milk Fever in too eny Veterinary hands like the one that helped too get up the article in the Hillsboro Gazette for he lackes Judgement but put it in too the honest men hands so that Farmers Will Get the benefit of It

Leesburg Ohio W. H GILBERT, V. S.

SOCIETY MEETINGS.

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The fourth annual meeting of this association was called to order by the President, Dr. George C. Faville, in the office of Dr. W. H. Harbaugh, at Richmond, on Wednesday, June 23, 1897.

After the roll-call the President addressed the association as follows:

GENTLEMEN OF THE ASSOCIATION:—Another year has rolled around and it becomes your duty to elect those officers who shall have the welfare of your organization in their keeping for one more year. The activity displayed during the first two years of our existence as an organization makes the last year seem like a vacation by comparison. Considerable has been accomplished by many of our members working in individual lines. Much remains yet undone. The professional standing of our association and the standing of each member individually depends upon our professional activity largely; and largely upon our desires. That the educated veterinarian should stand upon the same footing socially, professionally and every other way is axiomatic. That in many places he does is a fact, but in Virginia he too many times is placed by those employing him upon the same footing as the blacksmith, the old time horse doctor

and the charlatan, which is a great misfortune. This is largely due to the veterinarian himself. Too often he is willing to be put upon the lower plane in order to secure the case. Too often he submits to an unworthy competition in order not to make enemies, and too often he is willing to think that when he has his diploma he has all that can be gotten of veterinary knowledge, and is ready to settle down into the jog-trot of professional practice with no adequate effort being make to keep up with the procession. To keep in the vanguard requires continued effort. How continued only those who try hard to keep there can tell. Much good work has been done during the last year. The work done by our worthy member, Dr. Harbaugh, in face of the fact of much sickness, in his researches into the milk supply of our capitol city, is an example to the rest of us. His work must result in much good, and commands the attention of the whole medical fraternity. The lack of knowledge, worse than all the lack of the desire for information regarding the milk supply of our cities, is a surprise to all those who look into the question. Political boards of health and city councils, whose only care is to cater to the wishes of the ward boss and who will not look into the merits of the question of proper food supplies, are a menace to the healthfulness of our cities. There is not a city in our State that does not control the running at large of dogs because of danger to the health of the public from a largely imaginary trouble (rabies), or which does not compel a careful sanitary inspection of all houses within its limits in order to prevent the propagation of disease, or which does not give its board of health control of many conditions which are deleterious to health. But this one most important of all (the milk supply) is not considered, although the most dangerous of all from many considerations. Our association has accomplished much, but much remains to be done.

The report of the Board of Censors recommended the election to membership in the association of Dr. H. S. Willis, Rapidan Station, Va., which report was accepted, and Dr. Willis was accordingly elected to membership.

The resignations of Drs. Marshall and Dixon, which were tendered on account of their removal from the State, were accepted.

On motion of Dr. Harbaugh, which was seconded and passed, the semi-annual meetings of the association were discontinued for the present.

Dr. Harbaugh was also author of the motion that the Presi-

dent appoint two essayists to read papers at the next regular meeting.

After receiving the reports of the committees and transacting other routine business, the election of officers took place, which resulted in the re-election of the following officers: President, Dr. George C. Faville, Norfolk; First Vice-President, Dr. W. T. Gilchrist, Norfolk; Second Vice-President, Dr. Chas. McCulloch, Howardsville; Secretary, Dr. Thos. M. Sweeny, Richmond; Treasurer, Dr. A. J. Burkholder, Staunton.

The President appointed as members of the Board of Censors, Drs. Harbaugh, Roop, Willis, Drake and Niles. Committee on Statistics, Drs. Harbaugh (Chairman), Gilchrist and Roop. Committee on Jurisprudence and Legislation, Drs. Harbaugh (Chairman), Niles and Sweeny.

Dr. Harbaugh, Chairman of the Committee on Statistics, read the following report:

GENTLEMEN:—You will observe that as chairman of this committee, I have the same complaint to make as my predecessor. I cannot understand why members neglect to send in notes upon such an important matter when the benefits are mutual.

Dr. E. P. Niles, State Veterinarian, sends the following report, which I include without change:

"*Chairman Committee on Statistics:*

"SIR:—Pursuant to your call for notes on contagious, epizootic and enzootic diseases, I beg to submit the following: Since the last report of your committee I have observed encephalitis in various parts of the State. This is a disease which gives rise to many 'mad dog' scares, and I have seen it in horses, mules, cattle and dogs. Last September the disease was prevalent in Northampton County among mules and horses. The symptoms vary somewhat in the different animals, and even in animals of the same species. In the horse and mule, in cases which have come under my observation, the 'rabid' symptoms have been less marked than in cattle and dogs. The temperature has remained nearly normal; appetite not impaired, at least in the early stage of the disease, the animal showing a desire to partake of food and water, but unable to do so on account of the paralysis of the muscles of the throat. In the case of a mule, to which my attention was called, the paralysis of the throat was, at that time, the only symptom of disease. Cattle usually become very excitable, and frequently vicious, attacking anything which may come in their way, especially dogs. At first the symptoms are mild, and to the ordinary observer not well defined, but upon examination it is noticed that the animal shows a peculiar indifference to its surroundings: there is a characteristic staring appearance of the eyes, and, owing to partial or complete paralysis of the throat, the saliva dribbles from the mouth. As the disease advances the animal becomes more easily excited, and, if not confined, may wander about in an aimless manner, frequently stopping and bellowing for several minutes at a time. If other animals come its way it makes a vicious charge upon them. In advanced stages of the disease the spinal cord may also be involved, causing partial, and sometimes total, paralysis of the extremities, manifested by a staggering gait, or inability to stand. The true cause of this disease seems not to be well understood. I am of the opinion, however, that it is an infectious disease due to a fungus. In one outbreak, which I have investigated, the disease was confined to a certain valley through which a stream of water ran. On this stream of water is located several saw-mills, the sawdust from which is thrown into the stream. I am of the opinion that the decaying sawdust in this stream had something to do in the causation of the disease in this instance.

"Canine distemper has been more prevalent in this section of the State during the

past two months than at any time since I have resided here. Some of the cases are of a very mild nature, while others are very severe.

"Enzootic pharyngitis made its appearance in this section during the spring for the first time; several cases having been brought to the clinics held by Dr. Roop at the college veterinary hospital. The most of such cases have yielded very promptly to treatment, complications arising only in one case. In that case it became necessary to trephine the inferior maxillary sinus to remove the pus, which had collected there. Distemper has also been prevalent during the past three months, in a much more severe form than usual.

"A few cases of black-leg have also been reported. This disease has, however, been confined to a very limited area.

"Splenetic or Texas cattle fever prevailed in certain sections of the State during last summer, but since the quarantine rules and regulations have been in force but two outbreaks of the disease occurred above the quarantine line."

(I am pleased to announce that Dr. Niles has succeeded in having a Board of Health established in the town of Blacksburg, consisting of one veterinarian and two physicians. He also induced the town council to pass an ordinance, which is now in force, requiring meat and milk inspection for the town, this being the first and only place in the State having such a law.)

Dr. H. Bannister, of Roanoke, reports as follows:—"During the year past I have had considerable of a sort of meningitis, that appears to be infectious to some extent; it has occurred mostly in cows, calves and some in dogs. The symptoms in the main are identical, excepting that in adult cattle there appears to be more violence than in either dogs or calves. Treatment has, in my practice, been of no avail, death usually occurring in from 36 to 48 hours. I have seen but two recoveries, both in cattle, one a four-year-old Jersey and the other a yearling. The cow was given small doses (ʒ ii) of chloral hydrate and the heifer got no treatment. A very mild form of pharyngitis has been very prevalent this year, requiring very little treatment, and, beyond the annoyance of incessant coughing, giving no trouble. Strangles in light form has occurred as it usually does."

Dr. H. S. Drake, of Leesburg, sends a very important report, and I fail to see how we can overlook some parts of it. There can be no question that the Association should investigate, as he suggests. His report is as follows:—"Tuberculosis is prevalent in every dairy of the county to a greater or lesser degree. Nothing is being done to check its spread, except in some one or two instances where I have examined by physical means, in order to destroy or remove all diseased cattle before new ones are brought in for renewing the dairy. Others have been warned, but no notice is being taken of the law. Many do not know that there is any danger. I do not think that the medical doctors are giving any warning to their patrons, as I know of the supply for babies being furnished from cows that have been diseased for some years, and the M. D.'s of the town are surely aware of the existence of the disease. Osteo-porosis has been observed in a number of horses boarding at Oak Hill farm, that are natives of Pennsylvania (near Philadelphia). They were diseased when brought here about one year ago. Some have died and others destroyed at my instigation, where fractures existed. I now have two geldings, three years old, and two broodmares under observation. Notes as follows: September 17, 1895, two colts, sorrel and black, two years old; enlargement of superior maxillary in both very bad; gait retarded and stiff, otherwise in good condition; emasculation standing; both did well. I was informed by Mr. A. (owner) that the animals were getting much better, as the enlargement is scarcely perceptible to an ordinary observer. I saw them May 26, 1897, and would not have believed there could be such a change in so short a time and without treatment. Their movement is free and with a new vigor of life, as is clearly demonstrated by their ability to kick and jump. The two broodmares, as stated by Mr. F., lost their foals before coming to his farm, and they are perceptibly diseased, but have by their sides two fine foals as ever grew, and apparently sound at this writing. I hope to get a full history of the mares and to keep track of their offspring as developed and note results for further reference.

"Fistula of Withers and Poll.—My attention has been called at different periods to this disease existing among so many horses of all classes and types. I wish to bring before the profession the advisability of investigation by the able professional staff at our State Institute. It is causing the loss of many valuable animals in this and adjoining

counties. It is more prevalent on the dairy farms of this county and among young unbroken colts. All cases can be traced to there having been some animal affected on the premises before the outbreak, and in many places every animal has been affected at different periods of time; and when all horses have been removed from said farm, and a new tenant with new stock came free of any such disease, in four to six months there would be from one to three animals showing either swelling of withers or poll. I have noted that, as to forms, one may be classed as a fibro-tumor enlargement; the other as a sero-purulent ty| e, which is the most common to my observation, and I believe it to be of a contagious or infectious nature, while the fibrous form I do not consider to be so. The fibrous form has a number of ducts, while the other form has but a single one for connecting directly with the spinous processes or shoulder and its integuments."

In Richmond and vicinity during the past year muscular rheumatism has prevailed to more than the average extent. Pharyngitis among horses, which first made its appearance here several years ago in a mild form, now appears in many instances as a malignant disease, and in fact all cases of it require closer attention than formerly.

About the average number of cases of tetanus have occurred.

The nervous form of distemper in dogs has caused a large death rate.

Encephalitis of cattle seems to have moved to the western part of the State. I was called to attend a few isolated cases during the year, but I heard of no outbreak of any importance such as we had a few years ago.

Respectfully,

W. H. HARBAUGH, *Chairman.*

The afternoon was devoted to the reading and discussion of reports of cases, after which the association adjourned to meet in Norfolk on the fourth Wednesday of June, 1898.

THOS. M. SWEENEY, *Secretary.*

MAINE VETERINARY MEDICAL ASSOCIATION.

The regular meeting of this association was held at the Elmwood Hotel, Waterville, Wednesday, July 14, and on roll-call Drs. Choate, Huntington, Sally, Joly and West were present.

Dr. Huntington was elected President *pro tem.*

On motion it was voted to reconsider the resolve passed at the special meeting held at Augusta, Feb. 15, 1897, in relation to substituting the Maine Board of Agriculture for the present Maine Cattle Commission and it was the sense of the meeting that such a change would be of no benefit.

Dr. Huntington reported that he sent the resolves passed at the February meeting in regard to the inspection of cattle for the Massachusetts market to the Massachusetts Cattle Commission and it had resulted in their sending tags to veterinarians who are testing for their market, and he thought possibly they might later appoint Maine veterinarians to do the testing.

Dr. Joly reported for the committee who were appointed to manage the passage of the bill submitted to the Legislature that he was the only member present at the hearing before the Judiciary Committee, and that, while he considered that they were disposed to be fair and just toward the profession, the association was handicapped by having only one representative present,

while the "quacks" had a number there, hence the bill was lost.

Dr. Joly translated some articles in a French veterinary journal relating to Nocard's recent work, which were interesting and instructive.

On motion it was voted that the unpaid dues of Dr. Farnum, who recently met with such a sadly sudden death, be credited as paid to date.

On motion the following resolutions were adopted:

WHEREAS, It has pleased Almighty God to remove from our midst by death one of our best loved and most respected members, Dr. William David Farnum,

Resolved, That we deeply deplore the great misfortune which has befallen the family of the deceased and,

Resolved, That we hereby extend our sincere and heartfelt sympathy to the wife and family in their bereavement.

The Secretary was instructed to send a copy of these resolutions to the wife of Dr. Farnum.

Pursuant to notice given at the last regular meeting, according to Sections 1, 2, 3 of Article XII of the constitution, it was unanimously voted to amend Section 1 of Article III by striking out the word *six* in the second line of said Section 1 of Article III and substituting therefor the word *three*, so that as amended it shall stand "the meetings of this association shall be held once in three months."

After the unanimous expression of opinion favoring them, the following were passed:

Resolved, That as a physical examination as a means of diagnosing tuberculosis is false, misleading and entirely unreliable, and is so conceded by all noted scientists, and be it further

Resolved, That we, members of the Maine Veterinary Medical Association, absolutely refuse to make any physical examinations as the exclusive means of detecting tuberculosis, and believe that such examinations are fruitful causes of the spread of the disease by giving the public a sense of security which does not exist.

Voted that the next meeting be held at Rockland, and that at our January meeting we extend a cordial invitation to the ladies to be present.

After reporting many cases from the practice of the various members and a full, free and edifying discussion of same by all present, the meeting adjourned. W. L. WEST, *Secretary.*

MINNESOTA STATE VETERINARY MEDICAL ASSOCIATION.

The regular semi-annual meeting of this association was held at the Court House, in Owatonna, Minn., on July 13th and 14th.

The meeting was called to order by President Brimhall on the evening of July 13th. The following gentlemen were

present: Drs. C. C. Lyford, M. H. Reynolds, N. S. Erb, J. P. Anderson, S. D. Brimhall, L. Hay, S. H. Ward, A. Youngberg, K. J. McKenzie, A. Dallimore, E. N. Chute, J. McGillivray, J. N. Gould, J. W. Gould, J. H. Dietz, W. Amos, and Dr. Shoenlefer, of Chicago.

Secretary's and Treasurer's reports were read and adopted.

Dr. Reynolds then, as chairman of the Committee on Infectious Diseases, presented a lengthy report on dealing with infectious diseases (hog-cholera, tuberculosis and glanders) in the State, suggesting means of eradication. Several members urged the necessity of providing some means of compensating owners of glandered horses ordered killed by the boards of health.

Dr. Brimhall related some of his experiences in dealing with glandered horses, and told pitiful stories of circumstances surrounding poor owners of horses killed.

Dr. Amos thought compensation would be an incentive to owners to have their animals tested and destroyed, rather than trade them off, thus preventing the chief means of spreading the disease.

Dr. Shoenlefer also made some valuable suggestions on dealing with infectious diseases.

Election of new members then took place, and the following were admitted as members: Dr. Amos, Owatonna; Dr. J. N. Gould, Worthington, and G. McGillivray, Spring-Valley.

Meeting adjourned.

The meeting was called to order on 14th, at 8 A. M., by the President, and Dr. Youngberg, of Lake Park, Minn., gave a very interesting paper on "Malignant Catarrh of the Ox." This was followed by a lively discussion, which brought out the fact that the disease is quite as prevalent in the southern part of the State as in the northern, Dr. Amos reporting a number of cases about Owatonna.

Dr. Amos then presented some excellent specimens of tuberculosis, which were carefully discussed.

Dr. Reynolds spoke briefly of legislative effort to control tuberculosis.

Dr. Brimhall, of Minneapolis, gave a short talk on intralaryngeal injections of bitter almond water and morphia in cases of acute and chronic cough.

The meeting then adjourned till 1 P. M., when Dr. Lyford, of Minneapolis, exhibited specimens of horses' feet and gave a demonstration of his way of operating for contracted feet.

The meeting then adjourned to Dr. Amos' office, when Dr.

S. H. Ward, of St. Cloud, read a paper on "Specific Cures for Certain Diseases,"* an amusing *résumé* of remedies recommended to him by horse-owners and would-be veterinarians.

Dr. Reynolds gave a practical demonstration of his way of performing ovariotomy in a bitch, while Dr. Brimhall conducted a clinical diagnosis of an obscure case of lameness.

A vote of thanks was tendered Dr. Amos for courtesies extended and assistance in making the meeting a successful one; and after deciding to hold the next semi-annual meeting at the Experimental Farm, St. Anthony Park, St. Paul, the session adjourned.

L. HAY, V. S., *Secretary.*

COLORADO STATE VETERINARY MEDICAL ASSOCIATION.

The regular semi-annual meeting of this association was called to order by Dr. Sol. Bock, President, in the chair.

The following members answered to roll-call: Drs. Solomon Bock, F. M. Hunt, Emil Pouppirt, of Denver, and Dr. D. P. Frame, of Colorado Springs. Dr. Chas. Lamb, of Denver, came in later. Dr. M. R. Trumbower, of the U. S. V. M. A., was present as a welcome visitor.

Minutes of the last meeting were read and approved.

Dr. Frame made a verbal report on the progress and result of the proposed Veterinary Bill in the last legislature. The bill was reported favorably by the committees of both branches of the Assembly, and was on the calendar for passage, but was not reached in time for action.

The application of M. J. Dunleavy, M.D.C., of Chicago Veterinary College, and of Dr. E. Bovett, were presented by Dr. Bock for membership in the association, and were seconded by Dr. Hunt. They were elected to membership.

A letter from Dr. A. T. Peters, of Lincoln, Neb., was read, requesting the influence of this association in securing the next annual meeting of the U. S. V. M. A. in the West. The Secretary was directed to reply to this assuring Dr. Peters of our support.

Dr. E. Bovett came in and was introduced to the members present.

Dr. Pouppirt nominated Dr. Lamb for Treasurer of the Association. Seconded by Dr. Hunt, and Dr. Lamb was elected Treasurer.

Dr. Charles Gresswell, the regular essayist for this meeting,

*Printed elsewhere in this issue.

being absent, the members indulged in a general discussion of rare and interesting cases, with treatment of the same; and in this way spent a very enjoyable and profitable afternoon.

The next meeting will be called January 4th, 1898. Adjourned to meet at that time. D. P. FRAME, *Secretary.*

VETERINARY ASSOCIATION OF THE DISTRICT OF COLUMBIA.

The fourteenth meeting of the Veterinary Association of the District of Columbia was held at Elks' Hall, No. 1006 E St., N. W., Washington, D. C., July 31st, at 8 P. M.

In the absence of the President, the Vice-President, Dr. Buckingham, called the meeting to order.

The following members answered the roll-call: Drs. Barton, Buckingham, Turner, Walmer, and C. B. Robinson; Dr. Yetton, an applicant for membership, was also present. A letter was received from Dr. C. F. Hadfield expressing regrets that he would be unable to attend the meeting.

The Committee on Credentials made a favorable report on the applications of Drs. Salmon and Yetton for membership, and on motion of Dr. Robinson they were elected members of this association.

The Legislative Committee reported that no active measures had been taken regarding the bill to regulate the practice of veterinary medicine in the District of Columbia at the extra session of the 55th Congress, for obvious reasons, but that a vigorous effort would be made at the coming session in December.

The subject of rabies and its existence in the District was discussed in its many phases, and the association resolved itself into a Committee of the Whole and drafted the following resolutions, which were ordered to be forwarded to the Commissioners of the District of Columbia:

WHEREAS, This association recognizes rabies as a disease, and that it exists at present in the District of Columbia among the lower animals and man, and that we as a body have recognized this enzootic disease in a large number of animals, particularly dogs, and

WHEREAS, We believe this disease is increasing in this District, and, while we recognize that there is no cure for it, after the disease is developed, we firmly believe that the disease can be prevented by proper sanitary measures; therefore, be it

RESOLVED: That this association recommends to the honorable Commissioners of the District of Columbia that all dogs, running at large, during the months of June, July, and August, be required to wear a proper muzzle, and that all unmuzzled dogs be considered dangerous to the health and welfare of the public, and that they be treated as unlicensed dogs and impounded, and that a copy of these resolutions be forwarded to the honorable Commissioners of the District of Columbia.

Dr. Robinson reported a very interesting case of rabies affecting a mule. The points of interest in the case were the vicious

attacks by the teeth made on anything which it encountered, and the fact that the animal moved in a straight line from one side of the corral to the other.

Dr. Buckingham cited several cases of rabies which had existed among the wolves at the Zoological Garden.

Dr. Barton reported several cases of dumb rabies.

For the next meeting (Sept. 25th) it was agreed that the subject of tuberculosis should be discussed in its various forms, each member discussing it in one of its peculiar relations to the public health.

The meeting was then adjourned.

J. P. TURNER, *Secretary.*

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

This association will meet in Franklin, September 21st, and there is every promise of a very large and enthusiastic gathering of Keystone veterinarians. It is the home of the Third Vice-President, Dr. Geo. B. Jobson, and as chairman of the local committee of arrangements, he has already procured a large hall—well lighted and with good ventilation—two very essential points. The hotel rates have also been made so that all may be satisfied. Dr. Jobson being Mayor of Franklin, will not leave any visiting veterinarian come away regretting his acquaintance with the city of Franklin and vicinity.

The Local Committee of Arrangements is composed as follows: Chairman, George B. Jobson, Franklin; J. B. Irons, Erie, and J. A. Waugh, Pittsburg.

The Reception Committee consists of Dr. G. B. Jobson, of Franklin; George Jobson, Jr., of Oil City, and C. C. McLean, of Meadville. The reports received from the different members of committees are very encouraging, and the outlook is good.

The following papers have been promised, and more are expected:

Dr. Geo. B. Jobson, Jr., "Bacteria."

Dr. J. B. Irons, "Anthrax."

Dr. Willis B. McCray, "Parturient Apoplexy."

Dr. W. Horace Hoskins (subject not stated).

Dr. C. C. McLean, "Dairy and Milk Inspection."

Dr. Leonard Pearson (subject not stated).

Dr. Otto G. Noack, "Report of surgical cases, as tenotomy and resection of neurotic parts of soft tissue of frog caused by nail wounds, etc."

Dr. F. S. Allen, "Report of Interesting Foot Troubles."

We extend to all veterinarians a hearty invitation to be with us at Franklin, Venango County, on September 21st.

DR. W. L. RHOADS, *Cor. Secretary, P. S. V. M. A.*

NEW YORK STATE VETERINARY MEDICAL SOCIETY.

The annual meeting of this association will be called to order at 10 A. M., September 14th, at the Vanderbilt Hotel, Syracuse, and will be in session for two days. It is very earnestly desired and expected that there will be a very large attendance of members from all parts of the State.

While the programme is not thoroughly completed, enough is announced to guarantee that those who attend will be repaid a hundredfold for their journey, and the diversion from the humdrum of perpetual practice will be a deserved recreation before the arduous duties of the fall and winter set in.

Many cannot spare the time to go such a distance as Nashville, but all can run away for two days to profit by the great advantages the State Society offers.

We append a list of papers which the Secretary has kindly forwarded, and others are promised. If no more were to be presented there is plenty here for interesting discussion and thought.

Prof. James Law, "How to Prepare Contagious Products for Shipment to the Pathological Laboratory."

Dr. George H. Berns, "Osteo-Porosis."

Dr. W. L. Baker, "The Use of Cold in the Treatment of Laminitis and Parturient Apoplexy."

Dr. Claude D. Morris, "The Veterinarian in the Jury Box."

Dr. Roscoe R. Bell, "Infectious Catarrhal Fever of Horses."

Dr. Charles Cowie, subject not given.

Dr. William Henry Kelly, subject not given.

CALIFORNIA PURE FOOD LAW AND ORDINANCES.—Through the courtesy of Dr. H. A. Spencer, Veterinary Inspector and Health Officer of Santa Clara County, California, we have before us a copy of a pamphlet bearing the above title, which gives the full laws concerning contagious diseases in animals and regulating the private inspection of the same; creating the office of Veterinary Inspector and Health Officer and prescribing his duties. A hasty inspection of the ordinances shows them to be more exacting than in the East.

NEWS AND ITEMS.

A SPECIAL BULLETIN on "Tuberculosis in Cattle and How to Use Tuberculin" has just been issued by the Ontario Department of Agriculture at Toronto.

STOMACH WORMS OF SHEEP.—Prof. W. B. Niles, of the Iowa Agricultural College, has issued a bulletin on the *Strongylus Contortus*, giving the life history, symptoms, methods of prevention, and cure of the affected animals.

LARKSPUR POISONING.—State Veterinarian M. E. Knowles, of Montana, has issued a circular to the stock raisers of his State, dealing with the symptoms and treatment of poisoning by this plant, which chiefly affects sheep and cattle.

AT the recent examination by the Maryland Veterinary Medical Examining Board, three applicants presented themselves, two passing (Drs. J. S. Buckley and B. A. Brown), and one failing.

D. P. FRAME, M. D. C., holds the office of Food Inspector for the city of Colorado Springs, Col., which is an appointive office under the City Council, and comprises the meat, milk and dairy inspection, as well as other food products. He is also Secretary of the State Veterinary Medical Association.

DOCKED HORSES IN ENGLAND.—In a case of prosecution by the Royal Society for the Prevention of Cruelty to Animals, of England, the counsel for the defense made the estimate that three-fourths of the horses in England were docked. Professor Axe, on cross-examination, raised the estimate to 90 per cent.

AN IMPOSTOR.—We are informed by a correspondent that one C. H. Stull is advertising at Marshalltown, Iowa, that he has had thirty-eight years experience as a veterinary surgeon, and that he is a graduate of the American Veterinary College. No such person ever graduated from the A. V. C., as shown by the catalogue, and his assumption is a fraud.

WE regret to record the death of the wife of Dr. Jno. M. Parker, Secretary of the Massachusetts Cattle Commission, which occurred at his residence in Haverhill the first week in August. It was but a short time ago that the REVIEW published his happy marriage, and we extend him our respectful sympathy in his great bereavement.

STEAM FOR SKIN DISEASES.—It has been demonstrated that the application of a jet of "cooled" steam to parts affected with

chronic eczema, and other eruptive skin diseases, for a period of 15 to 30 minutes per day, will bring about a healthy condition of the skin. This would be well worth trying in cases of greasy heels.—(*Vet. Journal.*)

PENNSYLVANIA TO INVESTIGATE CONTAGIOUS ANIMAL DISEASES.—The Legislature of Pennsylvania has just appropriated $15,000 to be employed in investigating contagious and infectious animal diseases. Following the formation of the Live Stock Sanitary Board, with the intelligent activity of State Veterinarian Pearson, this should result in the greatest benefit to the cause of sanitary medicine.

WORDS THAT MAKETH THE EDITORIAL HEART GLAD.—An esteemed Wisconsin correspondent writes as follows, under date of August 12: "I wish to congratulate you on the journal you are issuing to the veterinarians to-day. It almost seems that every month's issue is an improvement on the month before, if that were possible, and hardly see how any veterinarian can afford to 'keep house' without it."

HOPE FOR THE HORSE.—Those who think the usefulness of the horse is being circumscribed will hail the announcement that a new field is opening up for him, in the production of "equisine," obtained by injecting alcohol into the circulation of the horse, afterwards withdrawing the blood, and treating it with chloral to control coagulation. This substance is then used as an antidote for dipsomania in man, whether congenital or acquired.

PRACTICE IN COLORADO.—A correspondent, practicing in Colorado, writes: "I may say that the state of veterinary practice in this Western country is just now at a very low point, owing to the very low price of horses and the fact that there is very little demand for them in this market. As for myself I am doing very little as compared to what I have done in the past."

REMOUNTS FOR U. S. ARMY.—Purchases of remounts for the American cavalry have been resumed and last week the orders placed through the Chicago market stiffened prices up a bit. The requirements as to soundness and freedom from blemish are so very strict, however, that not many of the general run can qualify. Purchases for the army were also renewed in Kentucky last week. The prices ordinarily paid are close about $100. —(*Breeder's Gazette*, Aug. 4.)

SALE OF VETERINARY DRUGS.—It having come to the

notice of the Central Veterinary Medical Society of England that a wholesale drug firm was offering to supply veterinary surgeons' clients at the same price they were charging members of the profession, the Society adopted and transmitted to the druggists a resolution expressing their regret at observing such a price-list in the hands of horse dealers and private owners, showing that it was prejudicial to the interests of the profession.

FOR THE POSITION OF ASSISTANT IN OBSTETRICS, A. V. C.—We are requested to make the following announcement: "By direction of the Board of Trustees, the Board of the Faculty of the American Veterinary College will hold a competitive examination during the last week of September for the position of assistant to the Chair of Obstetrics, the examination to consist in a written composition and the delivery of a didactic lecture of half an hour on subjects related to that department. For information address the Dean, 139 and 141 West Fifty-fourth Street, New York."

VETERINARIANS AND HORSE SHOWS.—The Irish Central Veterinary Association was founded July 22, at Mullingar, Ireland. When the routine organization business was through with, a discussion took place on the appointment of veterinary surgeons to horse shows, and the following resolution was unanimously passed: "That the acceptance by veterinary surgeons of appointments from show committees, under circumstances which render it possible for their opinion to be challenged and disputed by interested outsiders, is to be deprecated in the interests of the veterinary profession, and it is the opinion of this meeting that no veterinary surgeons should accept appointments under such conditions."

SANMETTO IN OVER FIFTY CASES OF AZOTURIA.—Dr. F. J. Bliss, C. V. S., of Earlville, Ill., writing, says: "I have been using sanmetto in my practice for a year, and I consider it almost a specific in azoturia. I have given it a thorough test in over fifty cases of this disease in its different stages and have found the results invariably the same—the patients improving from the commencement of its exhibition, the urine clearing up, the offensive odor disappearing and all alarming symptoms abating, and a general air of comfort to the animal is at once noticed. It is often indicated in other diseases, and I have received much benefit from its use in my practice in general, and at some future time will give my experience with sanmetto in other fields of usefulness.

NEW GRADUATES FROM THE VETERINARY DEPARTMENT OF HARVARD UNIVERSITY.—At the recommencement exercises of this school, which took place on June 30th, in conjunction with the other departments of the University, twenty gentlemen received the degree of M.D.V., on the recommendation of the Dean, Prof. Charles P. Lyman: Frank Jerome Babbitt, Elmer Warren Babson, Clarence Edward Burchstead, Howard Montgomery Burgers, Cornelius Cronon, Frederick Thomas Dolan, Clement Arthur Hamblet, Edward Ambrose Madden, Arthur Winthrop May, William Augustine Nannery, Ellis Peterson, Jr., Charles Herbert Perry, Thomas Joseph Shenkwin, Frank Benjamin Stratton, Berton Amasa Thissell, Pell Fletcher Wallingford, Lewis Cummings Weeks, Daniel George White, William Tisdale White, and Alexander Eames Wight.

TETANUS ANTITOXIN.—At a meeting of the French Academy of Medicine, held in Paris, on the 27th of July last, Dr. Nocard stated that the Pasteur laboratories in Paris had dispensed 7000 doses of ten c.c. each of tetanus antitoxin, which had been used for the preventive treatment of 3100 animals located in districts where tetanus was endemic. Not a single death from tetanus occurred. One horse alone, treated five days after the infection of the wound, had tetanus, but the disease was mild. During the same time the same veterinarians had observed 259 cases of tetanus in animals that had not been treated preventively with the antitoxin. Dr. Nocard states that there is no doubt of the utility of preventive injections of tetanus antitoxin in veterinary practice. The treatment of tetanus, when once thoroughly declared, is difficult and uncertain. Its prevention, therefore, is of prime importance.

CYSTIC CALCULI IN A BITCH.—In the *Journal of Comparative Pathology and Therapeutics* Mr. H. Gray, M.R.C.V.S., suggests that cystic calculi may be more rare in bitches than in dogs, or, at least, he says that such has been his experience. Such may be the case, but there are no doubt many veterinarians who have seen cystic calculi quite often in the bitch and probably of many that, like the present case, had a fatal ending. This fox terrier, aged about ten years, had had great difficulty and pain in making water. For two days her condition was a great deal worse, she had passed a little bloody urine, had occasional vomiting and was very drowsy. On examination at about one and a half inches from the vulva, a calculus as big as a large marble, was detected in the urethra. By careful manipulation

seven little stones were squeezed out. To remove the large one, the bitch was chloroformed, the vagina dilated with an ear speculum, a vertical incision made of the stone permitted its extraction. No more calculi could be detected. But at the post-mortem, made the next day, two more were found in the urethra, one of the same size as the one operated on and a smaller one. The mucous membrane of the bladder was much inflamed.

THE HORSELESS CARRIAGE.—Few men are so well posted as to events on both continents, especially those that relate to the horse, as Mr. W. E. D. Stokes, who is the Russian Government's commissioner in America for horses. He has traveled widely and is possessed of keen powers of observation as well as an ability to set forth clearly the conditions that fall under his view. In a recent letter to the editor of an Eastern contemporary, Mr. Stokes, who is home at present, thus throws a ray of light on the motocyle question that is troubling some of those who formerly gave attention to horse-breeding: "I have just got a long account from the other side regarding motor carriages. We had an idea here that it was thought on the other side that they might supersede the horse, but there are not half as many used to-day as there were two years ago." Of course the horse has been wiped out of existence numberless times—on paper. Nothing so well suits the average contributor to "modern journalism" as to weave a story of fiction from a single strand of fact. Oftentimes they do not have even the "raw material" with which to work, but concoct startling stories of alleged fact from the nebulous dreams of would-be inventors. Much of the stuff written about "the horseless age" has found its way into print from such sources. Even if the cab horse should follow the street-car horse it would be all the better for horse-breeding, but at present there seems small chance that "cabbie" will need to take out license as an engineer before soliciting fares.—(*Breeder's Gazette.*)

ASSISTANTSHIP WANTED.

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